

## SPACE OPERATIONS CONTROL CENTER

## SATELLITE SITUATION REPORT

VOL. 5, NO. 20

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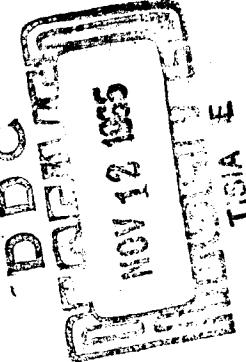
OCTOBER 31, 1965

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GOODDARD SPACE FLIGHT CENTER

GREENBELT, MD.



SPACE OPERATIONS CONTROL CENTER  
GODDARD SPACE FLIGHT CENTER  
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 5, NO. 20

OCTOBER 31, 1965

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED  
BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN  
ASTROPHYSICAL OBSERVATORY AS OF 1200Z ON OCTOBER 31, 1965

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING</u>
									<u>FREQ. (MC/S)</u>
<b>1958 LAUNCHES</b>									
ALPHA 1	EXPLORER 1	004	US	1 FEB	104.0	33.18	1542	348	
BETA 1	ROCKET BODY	016	US	17 MAR	138.4	34.27	4319	649	
BETA 2	VANGUARD 1	005	US	17 MAR	134.0	34.22	3928	661	
BETA 3		1576	US	17 MAR	132.7	34.21	3816	662	
<b>1959 LAUNCHES</b>									
ALPHA 1	VANGUARD 2	011	US	17 FEB	125.4	32.88	3284	556	
ALPHA 2	ROCKET BODY	012	US	17 FEB	129.7	32.92	3656	555	
ETA 1	VANGUARD 3	020	US	18 SEP	129.8	33.34	3714	512	
MU 1	LUNIK 1	112	USSR	2 JAN	HELIOPCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	3 MAR	HELIOPCENTRIC ORBIT				
IOTA 1	EXPLORER 7	022	US	13 OCT	101.1	50.39	1067	557	
IOTA 2	ROCKET BODY	023	US	13 OCT	100.9	50.37	1052	549	
<b>1960 LAUNCHES</b>									
ALPHA 1	PIONEER 5	027	US	11 MAR	HELIOPCENTRIC ORBIT				
BETA 1	ROCKET BODY	028	US	1 APR	99.1	48.41	733	698	
BETA 2	TIROS 1	029	US	1 APR	99.2	48.45	741	698	
BETA 3	NONE	101	US	1 APR	97.9	48.49	695	617	
BETA 4	NONE	115	US	1 APR	99.9	48.15	807	698	
GAMMA 2	TRANSIT 1B	031	US	13 APR	93.6	51.22	554	344	
GAMMA 4	NONE	099	US	13 APR	96.7	51.28	721	480	
ZETA 1	MIDAS 2	043	US	24 MAY	94.3	33.03	487	477	
ETA 1	TRANSIT 2A	045	US	22 JUN	101.6	66.72	1061	610	
ETA 2	GREB	046	US	22 JUN	101.6	66.70	1059	609	
ETA 3	ROCKET BODY	047	US	22 JUN	101.4	66.70	1042	609	
ETA 4		840	US	22 JUN	101.5	66.71	1056	608	
ETA 5		841	US	22 JUN	101.5	66.69	1050	610	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQUENCY (MC/S)</u>
									<u>NOT MAINTAINED</u>
1960 LAUNCHES (CONT'D)									
IOTA 1	ECHO 1	049	US	12 AUG	113.5	47.25	1494	1279	
IOTA 2	ROCKET BODY	050	US	12 AUG	118.1	47.25	1686	1500	
IOTA 3	METAL OBJECT	051	US	12 AUG	118.2	47.30	1681	1522	
IOTA 4	METAL OBJECT	052	US	12 AUG	118.4	47.33	1684	1536	
IOTA 5	METAL OBJECT	053	US	4 OCT	107.0	28.31	1212	962	CURRENT ELEMENTS NOT MAINTAINED
NU 1	COURIER 1B	058	US	4 OCT	106.6	28.21	1211	920	
NU 2	ROCKET BODY	059	US	3 NOV	112.3	49.90	2246	413	
XI 1	EXPLORER 8	060	US	3 NOV	111.8	49.94	2194	420	
XI 2	ROCKET BODY	062	US	3 NOV	108.7	49.39	1929	397	
XI 3	NONE	069	US	3 NOV	110.2	50.49	2047	422	
XI 4	NONE	105	US	23 NOV	98.2	48.56	729	618	
PI 1	TIROS 2	063	US	23 NOV	98.1	48.55	725	609	
PI 2	ROCKET BODY	064	US	23 NOV	98.1	48.52	722	617	
PI 3	NONE	074	US	23 NOV	98.3	48.53	731	621	
PI 4	NONE	075	US						
1961 LAUNCHES									
ALPHA 1	SAMOS 2	070	US	31 JAN	94.7	97.38	533	476	
ALPHA 2	METAL OBJECT	079	US	31 JAN	94.6	97.38	532	468	
GAMMA 1	VENUS PROBE	080	USSR	12 FEB	HELIOPCENTRIC ORBIT				
DELTA 2	ROCKET BODY	082	US	16 FEB	118.5	38.84	2595	627	
DELTA 3	NONE	085	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED				
KAPPA 1	EXPLORER 10	098	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	107	US	27 APR	107.9	28.77	1778	481	
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.8	66.85	1005	874	
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.8	66.84	1004	877	
OMICRON 3-208**	METAL OBJECTS	US							
RHO 1	TIROS 3	162	US	12 JUL	100.4	47.92	811	743	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	OBJECTS IN ORBIT			PERIOD MINUTES	INCLINATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
			SOURCE	LAUNCH	LAUNCH					
1961 LAUNCHES (CONT'D)										
RHO 2	ROCKET BODY	165	US	12 JUL	100.3	47.90	805	742		
RHO 3	METAL OBJECT	166	US	12 JUL	98.8	47.93	795	610		
RHO 4	METAL OBJECT	167	US	12 JUL	102.0	47.87	931	775		
SIGMA 1	MIDAS 3	163	US	12 JUL	161.5	91.35	3533	3358		
SIGMA 3	METAL OBJECT	188	US	12 JUL	161.1	91.18	3541	3323		
SIGMA 4	METAL OBJECT	196	US	12 JUL	161.9	91.23	3576	3349		
UPSILON 1	EXPLORER 12	170	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED					
A DELTA 1	MIDAS 4	192	US	21 OCT	166.0	95.85	3752	3501		
A DELTA 3	METAL OBJECT	194	US	21 OCT	165.6	95.83	3738	3483		
A DELTA 4	METAL OBJECT	195	US	21 OCT	166.4	95.84	3804	3483		
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.8	32.42	1107	952		
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.42	1105	956		
A ETA 3	ROCKET BODY	204	US	15 NOV	105.6	32.42	1094	952		
1962 LAUNCHES										
ALPHA 1	RANGER 3	221	US	26 JAN	HELIOPCENTRIC ORBIT					
ALPHA 2	ROCKET BODY	222	US	26 JAN	HELIOPCENTRIC ORBIT					
BETA 1	TIROS 4	226	US	8 FEB	100.4	48.31	844	707		
BETA 2	ROCKET BODY	227	US	8 FEB	101.4	48.14	942	702		
BETA 3	METAL OBJECT	228	US	8 FEB	99.5	48.41	763	702		
BETA 4	METAL OBJECT	229	US	8 FEB	100.3	48.35	839	705		
ZETA 1	ORB. SOL OBS. 1	255	US	7 MAR	96.0	32.83	592	541		
ZETA 2	ROCKET BODY	257	US	7 MAR	96.0	32.83	586	542		
KAPPA 1		271	US	9 APR	153.0	86.77	3412	2784		
KAPPA 3		273	US	9 APR	152.6	86.64	3369	2797		
KAPPA 4		274	US	9 APR	153.3	86.70	3423	2803		
MU 2	ROCKET BODY	282	US	23 APR	HELIOPCENTRIC ORBIT					
OMICRON 1	ARIEL	285	US/UK	26 APR	100.4	53.90	1168	386		
OMICRON 2	ROCKET BODY	288	US	26 APR	100.3	53.91	1152	388		

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING</u>
									<u>FREQ. (MC/S)</u>
<b>1962 LAUNCHES (CONT'D)</b>									
A ALPHA 1	TIROS 5	309	US	19 JUN	100.5	58.17	966	596	
A ALPHA 2	ROCKET BODY	311	US	19 JUN	100.4	58.18	956	597	
A ALPHA 3	METAL OBJECT	312	US	19 JUN	101.7	58.21	1083	599	
A ALPHA 4	METAL OBJECT	313	US	19 JUN	99.1	57.99	852	579	
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.88	3639	948	
A EPSILON 2	ROCKET BODY	341	US	10 JUL	157.6	44.79	3628	946	
A OMICRON 1		369	US	23 AUG	99.5	98.70	858	616	
A OMICRON 2		370	US	23 AUG	98.2	98.62	745	605	
A OMICRON 3		378	US	23 AUG	100.8	98.78	974	620	
A OMICRON 4		388	US	23 AUG	99.5	98.71	854	618	
A RHO 1	MARINER 2	374	US	27 AUG	HELIOPCENTRIC ORBIT				
A RHO 2	ROCKET BODY	375	US	27 AUG	HELIOPCENTRIC ORBIT				
A PSI 1	TIROS 6	397	US	18 SEP	98.7	58.36	714	682	
A PSI 2	ROCKET BODY	398	US	18 SEP	98.6	58.35	709	680	
A PSI 3	METAL OBJECT	399	US	18 SEP	99.4	58.45	775	683	
A PSI 4	METAL OBJECT	400	US	18 SEP	98.0	58.21	687	642	
B ALPHA 1	ALOUETTE	424	CANADA	29 SEP	105.5	80.49	1036	999	\$136.591\$136.078
B ALPHA 2	ROCKET BODY	426	US	29 SEP	105.4	80.47	1031	1000	
B ALPHA 3	METAL OBJECT	510	US	29 SEP	105.4	80.51	1024	1001	
B ALPHA 4	METAL OBJECT	511	US	29 SEP	105.5	80.44	1043	993	
B GAMMA 1	EXPLORER 14	432	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B GAMMA 2#	ROCKET BODY	NNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B ETA 1	RANGER 5	439	US	18 OCT	HELIOPCENTRIC ORBIT				
B ETA 2	ROCKET BODY	440	US	18 OCT	HELIOPCENTRIC ORBIT				
B KAPPA 1		444	US	26 OCT	124.1	71.44	3526	188	
B LAMBDA 1	EXPLORER 15	445	US	27 OCT	311.5	18.04	17369	307	
B LAMBDA 2#	ROCKET BODY	NNA	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.13	1183	1076	\$162\$324

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING
									FREQ. (MC/S)
1962 LAUNCHES (CONT'D)									
B MU 2	ROCKET BODY	447	US	31 OCT	107.6	50.21	1161	1072	
B NU 3		450	USSR	1 NOV	HELIOPCENTRIC ORBIT				
B TAU 1		502	US	13 DEC	104.3	70.36	1697	225	
B TAU 2	INJUN 3	504	US	13 DEC	110.1	70.35	2225	238	
B TAU 4		508	US	13 DEC	95.7	70.31	866	212	
B TAU 5		513	US	13 DEC	104.2	70.30	1681	227	
B TAU 6		520	US	13 DEC	109.0	70.33	2117	238	
B UPSILON 1	RELAY 1	503	US	13 DEC	185.1	47.53	7437	1321	
B UPSILON 2	ROCKET BODY	515	US	13 DEC	184.8	47.53	7422	1319	
B CHI 1	EXPLORER 16	506	US	16 DEC	104.4	52.09	1172	757	
B PSI 1	TRANSIT 5A	509	US	19 DEC	99.1	90.66	736	694	
B PSI 2		514	US	19 DEC	97.6	90.76	716	576	
B PSI 3		519	US	19 DEC	99.1	90.65	734	696	
B PSI 4		523	US	19 DEC	100.2	90.49	835	702	
1963 LAUNCHES									
1963 03A		527	US	16 JAN	94.4	81.90	522	458	
1963 04A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 04B	ROCKET BODY	532	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 05A		533	US	19 FEB	97.7	100.48	795	500	
1963 05B		534	US	19 FEB	97.7	100.50	796	502	
1963 05C		535	US	19 FEB	96.8	100.47	740	471	
1963 05D		536	US	19 FEB	98.3	100.48	836	521	
1963 08D		566	USSR	2 APR	BARYCENTRIC ORBIT				
1963 09A	EXPLORER 17	564	US	3 APR	93.5	57.62	645	241	
1963 13A	TELSTAR 2	573	US	7 MAY	225.3	42.77	10805	967	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 13B	ROCKET BODY	575	US	7 MAY	225.1	42.78	10789	967	
1963 14A		574	US	9 MAY	166.4	87.39	3678	3613	
1963 14B		579	US	9 MAY	166.4	87.30	4149	3142	
1963 14C		608	US	9 MAY	166.4	87.34	3688	3602	
1963 14D		589	US	9 MAY	CURRENT ELEMENTS	NOT MAINTAINED			
1963 14E		602	US	9 MAY	166.1	87.35	3653	3610	
1963 14F		628	US	9 MAY	166.8	87.34	3669	3652	
1963 14G		629	US	9 MAY	166.4	87.33	3707	3583	
1963 14H		702	US	9 MAY	166.4	87.33	3672	3618	
1963 22A		594	US	16 JUN	99.7	90.02	761	728	\$150\$400
1963 22B		603	US	16 JUN	99.7	90.01	759	731	
1963 22C		610	US	16 JUN	101.2	90.20	891	742	
1963 22D		611	US	16 JUN	98.1	89.79	766	571	
1963 24A	TIROS 7	604	US	19 JUN	97.4	58.28	652	619	
1963 24B	ROCKET BODY	605	US	19 JUN	97.3	58.28	646	616	
1963 24C	METAL OBJECT	606	US	19 JUN	97.9	58.39	682	632	
1963 24D	METAL OBJECT	607	US	19 JUN	96.9	58.11	645	573	
1963 25B	RESEARCH	614	US	27 JUN	132.1	82.17	4092	336	
1963 26A	SATELLITE FOR GEOPHYSICS	612	US	28 JUN	102.0	49.80	1292	414	
1963 27A		613	US	29 JUN	94.6	82.33	520	484	
1963 30A		622	US	18 JUL	167.8	88.49	3736	3669	
1963 30B		635	US	18 JUL	166.7	89.48	3996	3299	
1963 30C		630	US	18 JUL	167.5	88.42	3719	3658	
1963 30D		624	US	18 JUL	167.5	88.05	4579	2795	
1963 30E		631	US	18 JUL	168.3	88.45	3782	3658	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 31A	SYNCOM 2	634	US	26 JUL	1436.0	31.78	35810	35759	\$136.467\$136.98C
									\$1814.069
									\$1815.794
									\$1820.177
1963 31B	ROCKET BODY	625	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1963 38A		669	US	28 SEP	107.1	89.92	1110	1077	
1963 38B		670	US	28 SEP	107.4	89.91	1136	1075	
1963 38C		671	US	28 SEP	107.3	89.92	1129	1081	\$136.653\$162\$32L
1963 38D		672	US	28 SEP	107.3	89.93	1130	1078	
1963 38E		745	US	28 SEP	107.1	89.93	1104	1082	
1963 39A		674	US	17 OCT	6481.3	37.97	116742	100803	
1963 39B		675	US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1963 39C		692	US	17 OCT	6512.3	37.02	115029	103251	
1963 43A	POLYOT 1	683	USSR	1 NOV	102.2	58.93	1392	337	
1963 43B		684	USSR	1 NOV	98.8	58.64	1064	339	
1963 43D		686	USSR	1 NOV	98.6	59.84	1047	332	
1963 46A	EXPLORER 18	693	US	27 NOV	5610.7	35.20	192042	4385	
1963 47A	CENTAUR 2	694	US	27 NOV	107.8	30.36	1775	472	
1963 47B		696	US	27 NOV	107.2	30.05	1614	579	
1963 47C		697	US	27 NOV	107.5	30.06	1637	577	
1963 47D		698	US	27 NOV	108.0	29.91	1658	610	
1963 47E		699	US	27 NOV	108.6	30.43	1745	576	
1963 47F		700	US	27 NOV	108.6	30.45	1749	576	
1963 47G		701	US	27 NOV	107.8	29.98	1643	607	
1963 47H		739	US	27 NOV	105.9	30.40	1584	486	
1963 49A		703	US	5 DEC	106.8	89.94	1097	1063	
1963 49B		704	US	5 DEC	107.1	89.94	1123	1067	\$150\$400

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
<b>1963 LAUNCHES (CONT'D)</b>									
1963 49C		705	US	5	107.1	89.94	1123	1065	
1963 49D		706	US	5	107.1	89.95	1125	1058	
1963 49E		715	US	5	107.1	89.99	1115	1071	
1963 49F		753	US	5	107.1	89.96	1122	1067	
1963 53A	EXPLORER 19	714	US	19	115.2	78.67	2289	639	
1963 53B		721	US	19	115.8	78.65	2398	592	
1963 53C		722	US	19	115.8	78.64	2380	601	
1963 53D		723	US	19	115.8	78.66	2390	599	
1963 53E		724	US	19	115.9	78.45	2352	643	
1963 53F		725	US	19	115.8	78.71	2365	616	
1963 53G		726	US	19	115.8	78.61	2381	600	
1963 53H		732	US	19	115.8	78.59	2373	611	
1963 54A	TIROS 8	716	US	21	100.0	99.4	58.55	752	704
1963 54B		717	US	21	100.0	99.3	58.54	743	706
1963 54C		720	US	21	100.1	98.49	923	696	
1963 54D		736	US	21	100.0	97.7	58.55	715	580
<b>1964 LAUNCHES</b>									
1964 01A		727	US	11	103.4	69.95	932	913	
1964 01B	GGSE	728	US	11	103.4	69.93	939	906	
1964 01C	EGRS 1	729	US	11	103.4	69.93	938	907	136.805
1964 01D	SOLAR RAD.	730	US	11	103.5	69.93	935	910	136.886
1964 01E		731	US	11	103.5	69.93	935	911	
1964 02A		733	US	19	101.3	99.12	84-	794	
1964 02B		734	US	19	101.3	99.10	833	806	
1964 02C		735	US	19	101.3	99.08	836	808	
1964 03A	RELAY 2	737	US	21	101.3	94.7	46.31	7416	
							7416	2083	136.620\$136.142

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
<b>1964 LAUNCHES (CONT'D)</b>									
1964 03B	ECHO 2	738	US	21 JAN	194.8	46.30	7420	2085	136.019;136.170
1964 04A		740	US	25 JAN	108.1	81.50	1311	971	
1964 04B		741	US	25 JAN	108.9	81.51	1310	1045	
1965 04C		742	US	25 JAN	108.8	81.49	1308	1041	
1964 04D		743	US	25 JAN	108.8	81.53	1311	1037	
1964 04E		749	US	25 JAN	94.4	81.55	696	281	
1964 05A	SATURN 5	744	US	25 JAN	92.0	31.44	492	245	
1964 06A	ELEKTRON 1	746	USSR	30 JAN	169.3	60.96	7097	419	
1964 06B	ELEKTRON 2	748	USSR	30 JAN	1356.3	58.52	66921	1501	
1964 06C		750	USSR	30 JAN	167.9	60.92	7002	408	
1964 06D		751	USSR	30 JAN	1384.1	58.54	67943	1581	
1964 11A		759	US	28 FEB	94.5	82.05	510	486	
1964 15A	ARIEL 2	771	US/UK	27 MAR	99.6	51.65	1197	283	
1964 15B		775	US	27 MAR	98.9	51.65	1127	280	
1964 15C		847	US	27 MAR	103.2	51.36	1454	363	
1964 16D		785	USSR	2 APR	HELIOPCENTRIC ORBIT				
1964 19B	POLYOT 2	784	USSR	12 APR	91.3	58.09	386	289	
1964 26A		801	US	4 JUN	103.1	90.50	946	864	\$150\$400
1964 26B		805	US	4 JUN	103.9	90.22	981	903	
1964 26C		806	US	4 JUN	102.3	90.86	952	785	
1964 26D		809	US	4 JUN	103.1	90.52	947	863	
1964 31A		812	US	18 JUN	101.6	99.74	835	833	
1964 31B		813	US	18 JUN	101.6	99.75	843	827	
1964 31C		815	US	18 JUN	101.6	99.78	846	821	
1964 35A		824	US	2 JUL	94.8	82.08	524	497	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 38A	ELECKTRON 3	829	USSR	10 JUL	168.1	60.85	7021	402	
1964 38B	ELECKTRON 4	830	USSR	10 JUL	1313.8	59.17	65676	1038	
1964 38C		831	USSR	10 JUL	168.4	60.85	7039	405	
1964 38D		832	USSR	10 JUL	1341.3	59.23	66793	1025	
1964 40A		836	US	17 JUL	6024.8	39.08	104101	102500	
1964 40B		837	US	17 JUL	6004.3	40.75	114000	92103	
1964 40C		838	US	17 JUL	2349.0	38.30	103983	319	
1964 41B		843	US	28 JUL	BARYCENTRIC ORBIT				
1964 45B		851	US	14 AUG	126.4	95.67	3652	278	
1964 47A	SYNCOM 3	858	US	19 AUG	1436.2	.10	35792	35784	\$136.470\$136.980
									\$1820.177\$1815.794
									\$1814.931
1964 47B		862	US	19 AUG	CURRENT ELEMENTS NOT MAINTAINED				
1964 49D	COSMOS 41	869	USSR	22 AUG	714.4	66.06	39330	790	
1964 49E		898	USSR	22 AUG	718.3	65.23	39856	525	
1964 50A	COSMOS 42	864	USSR	22 AUG	92.1	48.93	521	211	
1964 50C	COSMOS 43	867	USSR	22 AUG	92.3	48.92	536	214	
1964 51A	EXPLORER 20	870	US	25 AUG	103.9	79.92	1023	867	
									\$136.326\$136.350
1964 51B		871	US	25 AUG	103.9	79.92	1016	868	
1964 51C		873	US	25 AUG	103.4	79.84	985	852	
1964 51D		874	US	25 AUG	103.4	79.85	1038	802	
1964 51E		875	US	25 AUG	103.4	79.84	1059	785	
1964 52A	NIMBUS 1	872	US	28 AUG	98.3	98.69	927	428	
1964 52B		878	US	28 AUG	98.3	98.69	930	427	
									\$136.680

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
<b>1964 LAUNCHES (CONT'D)</b>									
1964 53A	COSMOS 44	876	USSR	28 AUG	99.5	65.10	873	599	
1964 53B		877	USSR	28 AUG	99.6	65.12	812	667	
1964 54A	OGO 1	879	US	5 SEP	3841.9	40.72	144824	4930	\$136.200\$400.250 \$400.850
1964 60A	EXPLORER 21	889	US	4 OCT	2080.3	33.72	94288	917	136.147
1964 63A		893	US	6 OCT	106.3	89.92	1080	1035	
1964 63B		897	US	6 OCT	106.6	89.89	1081	1059	
1964 63C		900	US	6 OCT	106.6	89.91	1085	1053	
1964 63D		901	US	6 OCT	106.6	89.92	1087	1056	
1964 63E		902	US	6 OCT	106.6	89.92	1086	1056	
1964 63F		903	US	6 OCT	106.6	89.93	1088	1055	
1964 64A	EXPLORER 22	899	US	10 OCT	104.8	79.70	1079	890	\$136.171\$162\$324 \$20\$40\$41\$360
1964 64B		907	US	10 OCT	104.7	79.72	1080	888	
1964 64C		976	US	10 OCT	104.1	79.29	1061	842	
1964 64D		977	US	10 OCT	105.5	80.04	1026	912	
1964 72A		922	US	4 NOV	94.9	82.06	525	508	
1964 72B		925	US	4 NOV	94.8	82.05	519	500	
1964 72C		926	US	4 NOV	94.2	82.07	488	477	
1964 72D		927	US	4 NOV	94.3	82.04	489	479	
1964 73A	MARINER 3	923	US	5 NOV	HELIOPCENTRIC ORBIT				
1964 74A	EXPLORER 23	924	US	6 NOV	99.2	51.97	979	462	\$136.078\$136.861
1964 76A	EXPLORER 24	931	US	21 NOV	115.6	81.43	2381	589	136.709
1964 76B	EXPLORER 25	932	US	21 NOV	116.2	81.38	2493	530	\$136.292\$126.860
1964 76C		933	US	21 NOV	116.2	81.39	2496	530	
1964 76D		934	US	21 NOV	116.4	81.38	2485	552	
1964 76E		935	US	21 NOV	116.3	81.40	2488	538	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING
									FREQ. (MC/S)
<b>1964 LAUNCHES (CONT'D)</b>									
1964 76F		936	US	21 NOV	115.7	81.36	2391	582	
1964 76G		937	US	21 NOV	116.1	81.40	2476	536	
1964 76H		939	US	21 NOV	115.2	81.34	2351	584	
1964 76I		940	US	21 NOV	116.1	81.39	2479	529	
1964 76J		941	US	21 NOV	116.2	81.43	2522	502	
1964 76K		960	US	21 NOV	116.4	81.38	2450	587	
1964 76L		1411	US	21 NOV	116.3	81.40	2488	547	
1964 77A	MARINER 4	938	US	28 NOV	HELIOPCENTRIC ORBIT				
1964 77B		942	US	28 NOV	HELIOPCENTRIC ORBIT				
1964 78C	ZOND 2	945	USSR	30 NOV	HELIOPCENTRIC ORBIT				
1964 80A	COSMOS 51	947	USSR	9 DEC	89.6	48.73	286	217	
1964 83A		953	US	13 DEC	106.0	89.99	1067	1719	
1964 83B		956	US	13 DEC	106.3	90.00	1102	1011	
1964 83C		959	US	13 DEC	106.3	89.98	1090	1025	
1964 83D		965	US	13 DEC	106.3	89.97	1089	1025	
1964 83E		966	US	13 DEC	106.3	89.98	1095	1019	
1964 83F		967	US	13 DEC	106.3	89.98	1090	1023	
1964 83G		1099	US	13 DEC	106.3	89.99	1086	1028	
1964 83H		1528	US	13 DEC	106.3	89.98	1090	1024	
1964 83J		1608	US	13 DEC	106.3	89.98	1087	1027	
1964 86A	EXPLORER 26	963	US	21 DEC	453.1	19.93	26063	260	136.273
<b>1965 LAUNCHES</b>									
1965 03A		973	US	19 JAN	97.6	98.72	834	458	
1965 04A	TIROS 9	978	US	22 JAN	119.2	96.39	2583	706	
1965 04B		979	US	22 JAN	119.3	96.41	2599	701	
1965 04C		1312	US	22 JAN	118.0	96.25	2512	675	
1965 04D		1313	US	22 JAN	120.4	96.37	2659	739	
1965 06A	COSMOS 53	983	USSR	30 JAN	96.2	48.71	920	216	

## OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE Km.	TRANSMITTING
								FREQ. (MC/S)
1965 LAUNCHES (CONT'D)								
1965 06B	ORB. SOL. OBS. 2	984	USSR	30 JAN	93.6	48.74	646	220
1965 07A		987	US	3 FEB	96.5	32.85	626	550
1965 07B		988	US	3 FEB	96.5	32.85	635	547
1965 08A		1000	US	11 FEB	145.6	32.12	2797	2781
1965 08B		1001	US	11 FEB	145.4	32.13	2795	2761
1965 08C		1002	US	11 FEB	145.7	32.12	2808	2777
1965 09A	PEGASUS 1	1085	US	16 FEB	97.0	31.77	732	494
1965 09B		1088	US	16 FEB	97.1	31.74	734	499
1965 10B		1087	US	17 FEB	BARYCENTRIC ORBIT			
1965 11A	COSMOS 54	1089	USSR	21 FEB	104.1	56.09	1644	256
1965 11B	COSMOS 55	1090	USSR	21 FEB	104.2	56.06	1656	254
1965 11C	COSMOS 56	1091	USSR	21 FEB	103.3	56.08	1558	263
1965 11D		1092	USSR	21 FEB	105.8	56.09	1783	276
1965 11E		1094	USSR	21 FEB	99.1	56.04	1161	253
1965 14A	COSMOS 58	1097	USSR	26 FEB	96.8	65.04	638	572
1965 14B		1098	USSR	26 FEB	96.9	65.06	693	526
1965 16A	GREB	1271	US	9 MAR	103.5	70.09	941	910
1965 16B	GRAVITY GRADIENT II	1244	US	9 MAR	103.5	70.09	939	910
1965 16C	GRAVITY GRADIENT III	1292	US	9 MAR	103.5	70.08	941	909
1965 16D	SOLAR RAD.	1291	US	9 MAR	103.5	70.08	941	910
1965 16E	EGRS III	1208	US	9 MAR	103.5	70.10	941	907
1965 16F	OSCAR III	1293	US	9 MAR	103.5	70.11	949	900
1965 16G	SURCAL	1310	US	9 MAR	103.5	70.12	944	902
1965 16H	DODECAHEDRON	1272	US	9 MAR	103.5	70.10	941	908
1965 16J	ROCKET BODY	1245	US	9 MAR	103.5	70.11	940	906
1965 17B	EGRS II	1250	US	11 MAR	97.5	89.98	990	286
1965 17C		1228	US	11 MAR	97.2	89.98	968	287
1965 17D		1248	US	11 MAR	97.3	90.00	972	286

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE KM.</u>	<u>PERIGEE KM.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 17H	COSMOS 61	1323	US	11 MAR	93.5	89.96	611	263	
1965 20A	COSMOS 62	1267	USSR	15 MAR	104.1	56.03	1537	260	
1965 20B	COSMOS 63	1268	USSR	15 MAR	104.1	56.04	1542	257	
1965 20C		1269	USSR	15 MAR	103.3	56.04	1569	251	
1965 20D-20EB**			USSR	15 MAR					
1965 21A		1273	US	18 MAR	97.5	98.99	759	526	
1965 21C		1289	US	18 MAR	97.5	99.00	761	524	
1965 21E		1376	US	18 MAR	96.4	98.96	654	524	
1965 21F		1463	US	18 MAR	98.6	99.01	862	527	
1965 23B		1298	US	21 MAR	BARYCENTRIC ORBIT				
1965 27A	EGRS IV	1314	US	3 APR	111.5	90.20	1320	1275	
1965 27B		1315	US	3 APR	111.4	90.22	1321	1268	
1965 27C		1316	US	3 APR	111.5	90.20	1324	1268	
1965 27D		1389	US	3 APR	111.5	90.15	1320	1275	
1965 27E	EARLY BIRD	1399	US	3 APR	111.5	90.21	1312	1282	
1965 28A	ROCKET BODY	1317	US	6 APR	1437.3	.13	36596	35025	
1965 28B	MOLNIA 1	1318	US	6 APR	CURRENT ELEMENTS NOT MAINTAINED				
1965 30A		1324	USSR	23 APR	720.4	65.34	39818	662	
1965 31B		1329	US	28 APR	95.1	95.19	545	505	
1965 31G		1357	US	28 APR	94.4	95.22	498	484	
1965 32A	EXPLORER 27	1328	US	29 APR	107.8	41.17	1314	938	
1965 32B		1358	US	29 APR	107.8	41.17	1314	936	
1965 34A		1359	US	6 MAY	157.0	32.13	3739	2784	
1965 34B		1360	US	6 MAY	309.9	32.10	14797	2785	
1965 34C		1361	US	6 MAY	145.6	32.13	2800	2775	
1965 38A		1377	US	20 MAY	100.0	98.59	965	555	
1965 38B		1378	US	20 MAY	100.0	98.58	953	558	
1965 38C		1379	US	20 MAY	99.9	98.63	956	558	
1965 38D		1380	US	20 MAY	99.1	98.78	893	534	
1965 38E		1461	US	20 MAY	101.0	98.60	1052	560	
1965 38F		1462	US	20 MAY	98.9	98.9	868	551	

OBJECTS IN ORBIT

CATALOGUE  
NUMBER

PERIOD  
MINUTES

INCLI-  
NATION

APOGEE  
Km.

TRANSMITTING  
FREQ. (MC/S)

1965 LAUNCHES (CONT'D)

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 38G		1475	US	20 MAY	100.1	98.55	977	557	
1965 39A	PEGASUS 2	1381	US	25 MAY	97.2	31.76	728	514	\$136.410; 136.889
1965 39B	ROCKET BODY	1385	US	25 MAY	97.2	31.76	739	508	
1965 42A	EXPLORER 28	1388	US	29 MAY	8558.8	33.86	264247	196	136.125
1965 44A	LUNIK 6	1393	USSR	8 JUN	HELIOPCENTRIC ORBIT				
1964 48A		1420	US	24 JUN	106.9	89.98	1142	1028	
1965 48B		1425	US	24 JUN	106.9	89.97	1136	1032	
1965 48C		1428	US	24 JUN	106.6	89.98	1114	1026	
1965 48D		1435	US	24 JUN	106.9	90.00	1144	1028	
1965 50A		1422	US	25 JUN	94.6	107.65	508	496	
1965 50D		1427	US	25 JUN	93.5	107.63	439	439	
1965 51A	TIROS 10	1430	US	2 JUL	100.7	98.61	841	741	
1965 51B		1433	US	2 JUL	100.7	98.64	844	744	
1965 51C		1440	US	2 JUL	99.3	98.51	842	614	
1965 51D		1529	US	2 JUL	102.0	98.72	885	826	
1965 52A	COSMOS 70	1431	USSR	2 JUL	97.6	48.76	1060	221	
1965 52B		1432	USSR	2 JUL	96.9	48.80	985	233	
1965 53A	COSMOS 71	1441	USSR	16 JUL	95.3	56.05	542	520	
1965 53B	COSMOS 72	1442	USSR	16 JUL	95.9	56.06	582	544	
1965 53C	COSMOS 73	1443	USSR	16 JUL	95.6	56.07	550	544	
1965 53D	COSMOS 74	1444	USSR	16 JUL	96.2	56.04	612	543	
1965 53E	COSMOS 75	1445	USSR	16 JUL	96.5	56.03	637	547	
1965 53F		1448	USSR	16 JUL	96.6	56.12	642	548	
1965 53G		1449	USSR	16 JUL	95.1	56.08	544	505	
1965 53H		1473	USSR	16 JUL	96.7	56.06	655	546	
1965 55A		1447	US	17 JUL	94.4	70.19	508	474	
1965 55B		1452	US	17 JUL	94.1	70.18	492	459	
1965 55C		1455	US	17 JUL	94.4	70.19	506	469	
1965 56A	ZOND 3	1454	USSR	18 JUL	HELIOPCENTRIC ORBIT				
1965 58A		1458	US	20 JUL	6679.0	35.20	115839	106367	
1965 58B		1459	US	20 JUL	6712.7	34.22	121281	101715	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLINATION</u>	<u>APOGEE KM.</u>	<u>PERIGEE KM.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 58C		1460	US	20 JUL	2610.6	34.39	112694	153	136.768
1965 59A		1464	USSR	23 JUL	91.7	48.78	458	252	
1965 59B		1465	USSR	23 JUL	91.0	48.77	388	248	
1965 60A	PEGASUS 3	1467	US	30 JUL	95.2	28.87	534	514	\$136.410;136.590
1965 60B		1468	US	30 JUL	95.2	28.86	538	515	
1965 62B		1472	US	3 AUG	94.7	107.36	507	505	
1965 63A	EGRS 5	1506	US	10 AUG	122.2	69.25	2428	1134	136.840
1965 63B		1502	US	10 AUG	122.2	69.23	2425	1138	
1965 64A	CENTAUR 6	1503	US	11 AUG	CURRENT ELEMENTS NOT MAINTAINED				
1965 65A		1504	US	13 AUG	107.4	90.02	1087	1066	
1965 65B		1508	US	13 AUG	107.9	90.03	1169	1092	
1965 65C		1510	US	13 AUG	108.1	90.04	1194	1084	
1965 65D		1511	US	13 AUG	108.1	90.04	1196	1085	
1965 65E		1512	US	13 AUG	108.1	90.06	1194	1087	
1965 65F		1514	US	13 AUG	108.1	90.03	1200	1084	
1965 65G		1515	US	13 AUG	108.1	90.01	1195	1082	
1965 65H		1520	US	13 AUG	108.1	90.05	1201	1082	
1965 65J		1521	US	13 AUG	108.1	90.02	1200	1080	
1965 65K		1522	US	13 AUG	108.1	90.04	1201	1082	
1965 65L		1577	US	13 AUG	108.1	90.03	1203	1080	
1965 70A	COSMOS 80	1570	USSR	3 SEP	115.0	56.05	1550	1358	
1965 70B	COSMOS 81	1571	USSR	3 SEP	115.3	56.05	1553	1388	
1965 70C	COSMOS 82	1572	USSR	3 SEP	115.7	56.05	1561	1412	
1965 70D	COSMOS 83	1573	USSR	3 SEP	116.1	56.05	1567	1440	
1965 70E	COSMOS 84	1574	USSR	3 SEP	116.4	56.05	1573	1468	
1965 70F		1575	USSR	3 SEP	114.6	65.19	1514	1360	
1965 72A		1580	US	10 SEP	101.9	98.64	1055	649	
1965 72B		1581	US	10 SEP	101.6	98.76	1003	669	
1965 72C		1582	US	10 SEP	101.9	98.65	1051	646	
1965 72D		1583	US	10 SEP	101.9	98.62	1052	652	
1965 73A	COSMOS 86	1584	USSR	18 SEP	115.1	56.06	1639	1278	
1965 73B	COSMOS 87	1585	USSR	18 SEP	115.5	56.06	1648	1305	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
<b>1965 LAUNCHES (CONT'D)</b>									
1965 73C	COSMOS 88	1586	USSR	18 SEP	115.8	56.07	1662	1326	
1965 73D	COSMOS 89	1587	USSR	18 SEP	116.3	56.05	1675	1350	
1965 73E	COSMOS 90	1588	USSR	18 SEP	116.7	56.05	1687	1375	
1965 73F		1589	USSR	18 SEP	116.8	56.08	1692	1382	
1965 73G		1590	USSR	18 SEP	116.5	56.10	1674	1374	
1965 73H		1591	USSR	18 SEP	116.7	56.04	1692	1373	
1965 73J		1617	USSR	18 SEP	117.5	56.16	1759	1380	
1965 73K		1618	USSR	18 SEP	117.7	56.21	1768	1388	
1965 78A		1613	US	5 OCT	125.7	144.31	3453	412	
1965 78B		1616	US	5 OCT	125.7	144.30	3448	414	
1965 80A	MOLNIYA II	1621	USSR	13 OCT	719.0	65.07	39944	473	
1965 80B		1619	USSR	13 OCT	90.5	64.84	407	144	
1965 80D		1523	USSR	13 OCT	91.2	64.84	424	198	
1965 81A	OGO 2	1620	US	14 OCT	104.4	87.37	1514	419	\$136.200\$400.250
									\$400.850
1965 81B		1625	US	14 OCT	104.3	87.37	1509	418	
1965 82A		1624	US	15 OCT	100.0	32.36	816	698	
1965 82B-82BP***	COSMOS 93	1629	USSR	19 OCT	91.6	48.36	489	213	
1965 84A		1630	USSR	19 OCT	91.6	48.36	449	208	
1965 84B		1636	USSR	28 OCT	89.3	65.05	259	200	
1965 85A		1638	USSR	28 OCT	89.1	64.97	258	206	
1965 85B		1637	US	28 OCT	90.6	74.97	432	173	
1965 86A		1639	US	28 OCT	89.6	74.98	401	134	

- \* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.
- \*\* TWO HUNDRED AND SIX METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961 OMICRON 1 and 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DEAYED CAN BE FOUND IN THE DEAYED OBJECTS LISTS.
- \*\*\* ONE HUNDRED AND TWENTY TWO OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1965 20A, 1965 20B AND 1965 20C. OBJECTS OF THIS SERIES THAT HAVE DEAYED CAN BE FOUND IN THE DEAYED OBJECTS LIST.
- \*\*\*\* SIXTY ONE OBJECTS HAVE BEEN IDENTIFIED AS DEBRIS ASSOCIATED WITH 1965 82A.
  - \$ TRANSMITTING ON COMMAND ONLY.
  - & TRANSMITTING WHEN IN SUNLIGHT ONLY.
  - # NO CATALOGUE NUMBER ASSIGNED.

## DECAYED OBJECTS

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1957 LAUNCHES					
ALPHA 1	ROCKET BODY	001	USSR	4 OCT	1 DEC 57
ALPHA 2	SPUTNIK 1	002	USSR	4 OCT	EARLY JAN 58
BETA 1	SPUTNIK 2	003	USSR	3 NOV	14 APR 58
1958 LAUNCHES					
GAMMA 1	EXPLORER 3	006	US	26 MAR	28 JUN 58
DELTA 1	ROCKET BODY	007	USSR	15 MAY	3 DEC 58
DELTA 2	SPUTNIK 3	008	USSR	15 MAY	6 APR 60
EPSILON 1	EXPLORER 4	009	US	26 JUL	23 OCT 59
ZETA 1	SCORE	010	US	18 DEC	21 JAN 59
ETA 1	PIONEER 1	110	US	11 OCT	12 OCT 58
THETA 1	PIONEER 3	111	US	6 DEC	7 DEC 58
1959 LAUNCHES					
BETA 1	DISCOVERER 1	013	US	28 FEB	EARLY MAR 59
GAMMA 1	DISCOVERER 2	014	US	13 APR	26 APR 59
DELTA 1	EXPLORER 6	015	US	7 AUG	PRIOR JUL 61
DELTA 2	ROCKET BODY	017	US	7 AUG	PRIOR JUL 61
EPSILON 1	DISCOVERER 5	018	US	13 AUG	28 SEP 59
EPSILON 2	CAPSULE	026	US	13 AUG	11 FEB 61
ZETA 1	DISCOVERER 6	019	US	19 AUG	20 OCT 59
THETA 1	LUNIK 3	021	USSR	4 OCT	MAR 60
KAPPA 1	DISCOVERER 7	024	US	7 NOV	26 NOV 59
LAMBDA 1	DISCOVERER 8	025	US	20 NOV	8 MAR 60
XI 1	LUNIK 2	114	USSR	12 SEP	13 SEP 59*★★★

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
<b>1960 LAUNCHES</b>					
GAMMA 1		030	US	13 APR	18 AUG 60
GAMMA 3		033	US	13 APR	JUL 60
DELTA 1		032	US	15 APR	26 APR 60
EPSILON 1	SPUTNIK 4	034	USSR	15 MAY	5 SEP 62
EPSILON 2	ROCKET BODY	035	USSR	15 MAY	17 JUL 60
EPSILON 3	NONE	036	USSR	15 MAY	15 OCT 65
EPSILON 4	NONE	037	USSR	15 MAY	PRIOR JUL 61
EPSILON 5	NONE	038	USSR	15 MAY	SEP-OCT 60
EPSILON 6	NONE	039	USSR	15 MAY	24 SEP 60
EPSILON 7	NONE	040	USSR	15 MAY	24 SEP 60
EPSILON 8	NONE	041	USSR	15 MAY	SEP-OCT 60
EPSILON 9	NONE	042	USSR	15 MAY	SEP-OCT 60
ZETA 2	METAL OBJECT	044	US	24 MAY	5 DEC 60
THETA 1	DISCOVERER 13	048	US	10 AUG	14 NOV 60
THETA 1#	CAPSULE	NNA	US	10 AUG	11 AUG 60**
KAPPA 1	DISCOVERER 14	054	US	18 AUG	16 SEP 60
KAPPA 1#	CAPSULE	NNA	US	18 AUG	19 AUG 60**
LAMBDA 1	SPUTNIK 5	055	USSR	19 AUG	20 AUG 60*
LAMBDA 2	ROCKET BODY	056	USSR	19 AUG	23 SEP 60
MU 1	DISCOVERER 15	057	US	13 SEP	18 OCT 60
MU 1#	CAPSULE	NNA	US	13 SEP	15 SEP 60**
OMICRON 1	DISCOVERER 17	061	US	12 NOV	29 DEC 60
OMICRON 1#	CAPSULE	NNA	US	12 NOV	14 NOV 60
RHO 1	SPUTNIK 6	065	USSR	1 DEC	2 DEC 60
RHO 2	ROCKET BODY	066	USSR	1 DEC	2 DEC 60
SIGMA 1#	CAPSULE	NNA	US	7 DEC	10 DEC 60**
SIGMA 1	DISCOVERER 18	067	US	7 DEC	2 APR 61
TAU 1	DISCOVERER 19	068	US	20 DEC	23 JAN 61

## DECAYED OBJECTS

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1961 LAUNCHES					
BETA 1	SPUTNIK 7	071	USSR	4 FEB	26 FEB 61
BETA 2	ROCKET BODY	072	USSR	4 FEB	12-13 FEB 61
BETA 3	NONE	073	USSR	4 FEB	17 MAR 61
GAMMA 2	ROCKET BODY	076	USSR	12 FEB	18 FEB 61
GAMMA 3	SPUTNIK 8	077	USSR	12 FEB	24 FEB 61
GAMMA 4	NONE	078	USSR	12 FEB	13-18 FEB 61
DELTA 1	EXPLORER 9	081	US	16 FEB	9 APR 64
DELTA 4	NONE	086	US	16 FEB	PRIOR JUL 61
EPSILON 1	DISCOVERER 20	083	US	17 FEB	28 JUL 62
EPSILON 2	NONE	088	US	17 FEB	30 MAR-2 APR 61
EPSILON 3	NONE	089	US	17 FEB	20 APR 61
EPSILON 4	NONE	090	US	17 FEB	31 OCT 61
ZETA 1	DISCOVERER 21	084	US	18 FEB	20 APR 62
ETA 1	TRANSIT 3B & LOFTI	087	US	22 FEB	30 MAR 61
THETA 1	SPUTNIK 9	091	USSR	9 MAR	9 MAR 61 *
THETA 2	NONE	092	USSR	9 MAR	10 MAR 61
THETA 3	NONE	093	USSR	9 MAR	10 MAR 61
THETA 4	NONE	094	USSR	9 MAR	10 MAR 61
IOTA 1	SPUTNIK 10	095	USSR	25 MAR	25 MAR 61
ITOA 2	ROCKET BODY	096	USSR	25 MAR	26 MAR 61
IOTA 3	NONE	097	USSR	25 MAR	26 MAR 61
LAMBDA 1	DISCOVERER 23	100	US	8 APR	16 APR 62
LAMBDA 2	CAPSULE	102	US	8 APR	23 MAY 62
LAMBDA 3	NONE	106	US	8 APR	10 SEP 61
MU 1	VOSTOK 1	103	USSR	12 APR	12 APR 61 ***
MU 2	ROCKET BODY	104	USSR	12 APR	16 APR 61
X1 1#	CAPSULE	NNA	US	16 JUN	18 JUN 61 **
X1 1	DISCOVERER 25	108	US	16 JUN	12 JUL 61
X1 2	NONE	109	US	16 JUN	19 JUN 61

**DECAYED OBJECTS (CONTINUED)**

**1961 LAUNCHES (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
OMICRON 12	METAL OBJECT	359	US	29 JUN	31 AUG 65
OMICRON 25	METAL OBJECT	140	US	29 JUN	30 SEP 62
OMICRON 28	METAL OBJECT	143	US	29 JUN	16 JUN 62
OMICRON 46	METAL OBJECT	171	US	29 JUN	29 JAN 62
OMICRON 62	METAL OBJECT	231	US	29 JUN	13 FEB 65
PI 1	DISCOVERER 26	160	US	7 JUL	5 DEC 61
PI 1#	CAPSULE	NNA	US	8 JUL	9 JUL 61 **
SIGMA 2	METAL OBJECT	164	US	12 JUL	24 JUL 61
TAU 1	VOSTOK 2	168	USSR	6 AUG	7 AUG 61 ***
TAU 2	ROCKET BODY	169	USSR	6 AUG	9 AUG 61
PHI 1	RANGER 1	173	US	23 AUG	30 AUG 61
PHI 2	ROCKET BODY	174	US	23 AUG	3 SEP 61
CHI 1	EXPLORER 13	180	US	25 AUG	28 AUG 61
PSI 1	DISCOVERER 29	181	US	30 AUG	10 SEP 61
PSI 1#	CAPSULE	NNA	US	30 AUG	4 SEP 61
OMEGA 1	DISCOVERER 30	182	US	12 SEP	11 DEC 61
OMEGA 1#	CAPSULE	NNA	US	12 SEP	15 SEP 61 **
OMEGA 2	METAL OBJECT	185	US	12 SEP	18 SEP 61
OMEGA 3	METAL OBJECT	187	US	12 SEP	28 SEP 61
A-ALPHA 1	MA-4	183	US	13 SEP	13 SEP 61 **
A-ALPHA 2	ROCKET BODY	184	US	13 SEP	13 SEP 61
A-BETA 1	DISCOVERER 31	186	US	17 SEP	26 OCT 61
A-GAMMA 1	DISCOVERER 32	189	US	13 OCT	13 NOV 61
A-GAMMA 1	CAPSULE	NNA	US	13 OCT	14 OCT 61 **
A-GAMMA 2	METAL OBJECT	190	US	13 OCT	25 OCT 61 **
A-GAMMA 3	METAL OBJECT	191	US	13 OCT	16 OCT 61
A-DELTA 2		193	US	21 OCT	5 DEC 61
A-EPSILON 1	DISCOVERER 34	197	US	5 NOV	7 DEC 62
A-EPSILON 2	METAL OBJECT	198	US	5 NOV	30 NOV 61
A-EPSILON 3	METAL OBJECT	199	US	5 NOV	9 DEC 61

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
<b>1961 LAUNCHES (CONTINUED)</b>					
A-EPSILON 4	METAL OBJECT	200	US	5 NOV	1C DEC 61
A-EPSILON 5	METAL OBJECT	203	US	5 NOV	12 DEC 61
A-ZETA 1	DISCOVERER 35	201	US	15 NOV	3 DEC 61
A-ZETA 1#	CAPSULE	NNA	US	15 NOV	16 NOV 61 **
A-ZETA 2	METAL OBJECT	207	US	15 NOV	23 NOV 61
A-THETA 1	RANGER 2	206	US	18 NOV	20 NOV 61
A-LOTA 1	MA-5	208	US	29 NOV	29 NOV 61 **
A-LOTA 2	ROCKET BODY	209	US	29 NOV	30 NOV 61
A-KAPPA 1	DISCOVERER 36	213	US	12 DEC	8 MAR 62
A-KAPPA 1#	CAPSULE	NNA	US	12 DEC	16 DEC 61 **
A-KAPPA 2	OSCAR 1	214	US	12 DEC	31 JAN 62
A-KAPPA 3	METAL OBJECT	215	US	12 DEC	19 DEC 61
A-LAMBDA 1		217	US	22 DEC	14 AUG 62
A-LAMBDA 2		218	US	22 DEC	31 DEC 61
A-LAMBDA 3		219	US	22 DEC	9 JAN 62
<b>1962 LAUNCHES</b>					
GAMMA 1	FRIENDSHIP 7	240	US	20 FEB	20 FEB 62 ****
GAMMA 2	ROCKET BDY	241	US	20 FEB	21 FEB 62
DELTA 1		242	US	21 FEB	4 MAR 62
EPSILON 1	DISCOVERER 38	247	US	27 FEB	21 MAR 62
EPSILON 1#	CAPSULE	NNA	US	27 FEB	3 MAR 62 **
EPSILON 2	ROCKET BODY	248	US	27 FEB	3 MAR 62
EPSILON 3	METAL OBJECT	249	US	27 FEB	3 MAR 62
EPSILON 4	METAL OBJECT	251	US	27 FEB	7 MAR 62
ETA 1		256	US	7 MAR	7 JUN 63
ETA 2		258	US	7 MAR	31 MAR 62

## DECAYED OBJECTS (CONTINUED)

## 1962 LAUNCHES (CONT'D)

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
ETA 3	COSMOS 1	259	US	7 MAR	3 NOV 62
THETA 1	ROCKET BODY	266	USSR	16 MAR	25 MAY 62
THETA 2	COSMOS 2	267	USSR	16 MAR	18 JUN 62
LOTA 1	ROCKET BODY	269	USSR	6 APR	19-20 AUG 63
LOTA 2	COSMOS 3	270	USSR	6 APR	6 OCT 62
KAPPA 2	ROCKET BODY	272	US	9 APR	4 MAY 62
LAMBDA 1	LAMBDA 1	276	US	18 APR	28 MAY 62
LAMBDA 2	LAMBDA 2	277	US	18 APR	20 APR 62
LAMBDA 3	LAMBDA 3	278	US	18 APR	21 APR 62
LAMBDA 4	LAMBDA 4	279	US	18 APR	21 APR 62
MU 1	RANGER 4	280	US	23 APR	26 APR 62 *****
NU 1	COSMOS 3	281	USSR	24 APR	17 OCT 62
NU 2	ROCKET BODY	283	USSR	24 APR	5 AUG 62
XI 1	COSMOS 4	287	USSR	26 APR	29 APR 62
XI 2	ROCKET BODY	284	USSR	26 APR	17 JUN 62
XI 3	METAL OBJECT	289	USSR	26 APR	3 MAY 62
PI 1	PI 1	286	US	26 APR	28 APR 62
RHO 1	RHO 1	290	US	29 APR	26 MAY 62
RHO 2	RHO 2	291	US	29 APR	1 MAY 62
SIGMA 1	SIGMA 1	292	US	15 MAY	26 NOV 63
SIGMA 2	SIGMA 2	293	US	15 MAY	3 JUL 62
SIGMA 3	AURORA 7	294	US	15 MAY	13 JUL 62
TAU 1	ROCKET BODY	295	US	24 MAY	24 MAY 62 ****
TAU 2	COSMOS 5	296	US	24 MAY	25 MAY 62
UPSILON 1	ROCKET BODY	297	USSR	28 MAY	2 MAY 63
UPSILON 2	ROCKET BODY	298	USSR	28 MAY	15 DEC 62
PHI 1	PHI 1	302	US	30 MAY	11 JUN 62
PHI 2	PHI 2	303	US	30 MAY	2 JUN 62

**DECAYED OBJECTS (CONTINUED)**

**1962 LAUNCHES (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
CHI 1		304	US	2 JUN	28 JUN 62
CHI 2	OSCAR 2	305	US	2 JUN	21 JUN 62
CHI 3		306	US	2 JUN	6 JUN 62
PSI 1		307	US	17 JUN	18 JUN 62
OMEGA 1		308	US	18 JUN	29-30 OCT 63
OMEGA 2		310	US	18 JUN	12 JUL 62
OMEGA 3		314	US	18 JUN	14 JUL 62
A-BETA 1		315	US	23 JUN	7 JUL 62
A-GAMMA 1		316	US	28 JUN	14 SEP 62
A-DELTA 1	COSMOS 6	338	USSR	30 JUN	8 AUG 62
A-DELTA 2	ROCKET BODY	339	USSR	30 JUN	8 SEP 62
A-ZETA 1		342	US	18 JUL	25 JUL 62
A-ZETA 2		343	US	18 JUL	27 JUL 62
A-ETA 1		344	US	21 JUL	14 AUG 62
A-THETA 1		345	US	28 JUL	24 AUG 62
A-IOTA 1	COSMOS 7	346	USSR	28 JUL	1 AUG 62
A-IOTA 2	ROCKET BODY	347	USSR	28 JUL	21 AUG 62
A-IOTA 3	METAL OBJECT	348	USSR	28 JUL	31 JUL 62
A-IOTA 4	METAL OBJECT	349	USSR	28 JUL	30 JUL 62
A-KAPPA 1		360	US	2 AUG	26 AUG 62
A-KAPPA 2		362	US	2 AUG	8 AUG 62
A-LAMBDA 1		361	US	5 AUG	6 AUG 62
A-MU 1	VOSTOK 3	363	USSR	11 AUG	15 AUG 62 ***
A-MU 2	ROCKET BODY	364	USSR	11 AUG	14 AUG 62
A-NU 1	VOSTOK 4	365	USSR	12 AUG	15 AUG 62 ***
A-NU 2	ROCKET BODY	366	USSR	12 AUG	14 AUG 62
A-XI 1	COSMOS 8	367	USSR	18 AUG	17 AUG 63

## DECAYED OBJECTS (CONTINUED)

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1962 LAUNCHES (CONT'D)					
A-OMEGA 7		431	USSR	27 SEP	3 OCT 62
A-OMEGA 8		435	USSR	27 SEP	6 OCT 62
B-BETA 1		427	US	29 SEP	14 OCT 62
B-DELTA 1	SIGMA 7	433	US	3 OCT	3 OCT 62 *****
B-DELTA 2	ROCKET BODY	434	US	3 OCT	4 OCT 62
B-EPSILON 1		436	US	9 OCT	16 NOV 62
B-ZETA 1		437	USSR	17 OCT	21 OCT 62
B-ZETA 2		438	USSR	17 OCT	5 NOV 62
B-THETA 1		441	USSR	20 OCT	18 MAY 64
B-THETA 2		442	USSR	20 OCT	5 JUN 63
B-IOTA 1		443	USSR	24 OCT	29 OCT 62
B-IOTA 2		456	USSR	24 OCT	22 DEC 62
B-IOTA 3		457	USSR	24 OCT	26 FEB 63
B-IOTA 4		458	USSR	24 OCT	29 NOV 62
B-IOTA 5		459	USSR	24 OCT	24 DEC 62
B-IOTA 6		460	USSR	24 OCT	8 DEC 62
B-IOTA 7		482	USSR	24 OCT	10 DEC 62
B-IOTA 8		483	USSR	24 OCT	2 JAN 63
B-IOTA 9		484	USSR	24 OCT	4 DEC 62
B-IOTA 10		485	USSR	24 OCT	10 DEC 62
B-IOTA 11		486	USSR	24 OCT	30 NOV 62
B-IOTA 12		487	USSR	24 OCT	1 DEC 62
B-IOTA 13		491	USSR	24 OCT	25 DEC 62
B-IOTA 14		492	USSR	24 OCT	15 DEC 62
B-IOTA 15		493	USSR	24 OCT	21 DEC 62
B-IOTA 16		494	USSR	24 OCT	17 DEC 62
B-IOTA 17		495	USSR	24 OCT	26 DEC 62
B-IOTA 18		496	USSR	24 OCT	23 DEC 62
B-IOTA 19		497	USSR	24 OCT	26 DEC 62

## DECAYED OBJECTS (CONTINUED)

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1962 LAUNCHES (CONT'D)					
A XI 2	ROCKET BODY	368	USSR	18 AUG	19 DEC 62
A PI 1		371	USSR	25 AUG	28 AUG 62
A PI 2		372	USSR	25 AUG	2 SEP 62
A PI 3		373	USSR	25 AUG	31 AUG 62
A PI 4		379	USSR	25 AUG	5 SEP 62
A PI 5		380	USSR	25 AUG	30 AUG 62
A PI 6		376	USSR	25 AUG	6 SEP 62
A PI 7		386	USSR	25 AUG	8 SEP 62
A PI 8		387	USSR	25 AUG	5 SEP 62
A SIGMA 1		377	US	29 AUG	10 SEP 62
A TAU 1		381	USSR	1 SEP	6 SEP 62
A TAU 2		382	USSR	1 SEP	3 SEP 62
A TAU 3		383	USSR	1 SEP	3 SEP-1 OCT 62
A TAU 4		384	USSR	1 SEP	21 SEP 62
A UPSILON 1		385	US	1 SEP	26 OCT 64
A PHI 1		389	USSR	12 SEP	14 SEP 62
A PHI 2		390	USSR	12 SEP	12 SEP 62
A PHI 3		391	USSR	12 SEP	17 SEP 62
A PHI 4		392	USSR	12 SEP	13 SEP 62
A PHI 5		393	USSR	12 SEP	13 SEP 62
A PHI 6		394	USSR	12 SEP	16 SEP 62
A PHI 7		395	USSR	12 SEP	15 SEP 62
A CHI 1		396	US	17 SEP	16 NOV 62
A OMEGA 1		422	USSR	27 SEP	1 OCT 62
A OMEGA 2		423	USSR	27 SEP	22 DEC 62
A OMEGA 3		425	USSR	27 SEP	6 OCT 62
A OMEGA 4		428	USSR	27 SEP	8 OCT 62
A OMEGA 5		429	USSR	27 SEP	4 OCT 62
A OMEGA 6		430	USSR	27 SEP	8 OCT 62

DECAYED OBJECTS (CONTINUED)

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1962 LAUNCHES (CONT'D)					
B- IOTA 20		498	USSR	24 OCT	10 DEC 62
B- IOTA 21		499	USSR	24 OCT	9 DEC 62
B- IOTA 22		500	USSR	24 OCT	28 DEC 62
B- IOTA 23		501	USSR	24 OCT	26 DEC 62
B- IOTA 24		512	USSR	24 OCT	31 DEC 62
B- NU 1		448	USSR	1 NOV	2-3 NOV 62
B- NU 2		449	USSR	1 NOV	3 NOV 62
B- XI 1		451	USSR	4 NOV	5 NOV 62
B- XI 2		452	USSR	4 NOV	8 NOV 62
B- XI 3		454	USSR	4 NOV	19 JAN 63
B- XI 4		488	USSR	4 NOV	25 DEC 62
B- XI 5		489	USSR	4 NOV	27 DEC 62
B- OMECRON 1		453	US	5 NOV	3 DEC 62
B- PI 1		455	US	11 NOV	12 DEC 62
B- RHO 1		481	US	24 NOV	13 DEC 62
B- SIGMA 1		490	US	4 DEC	8 DEC 62
B- TAU 3		507	US	13 DEC	1 JUL 63
B- PHI 1		505	US	14 DEC	8 JAN 63
B- OMEGA 1		517	USSR	22 DEC	30 DEC 62
B- OMEGA 2		518	USSR	22 DEC	22 JAN 63
1963 LAUNCHES					
1963 01A		521	USSR	4 JAN	5 JAN 63
1963 01B		522	USSR	4 JAN	11 JAN 63
1963 01C		524	USSR	4 JAN	11 JAN 63

## DECAYED OBJECTS (CONTINUED)

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1963 LAUNCHES (CONT'D)					
1963 02A		525	US	7 JAN	24 JAN 63
1963 02B		526	US	7 JAN	16 JAN 63
1963 03B		528	US	16 JAN	8 NOV 63
1963 03C		529	US	16 JAN	31 DEC 63
1963 06A		554	USSR	21 MAR	29 MAR 63
1963 06B		555	USSR	21 MAR	9 APR 63
1963 07A		562	US	1 APR	26 APR 63
1963 08A		563	USSR	2 APR	3 APR 63
1963 09B	ROCKET BODY	565	US	3 APR	24 NOV 63
1963 10A		567	USSR	13 APR	29 AUG 63
1963 10B		568	USSR	13 APR	6 JUL 63
1963 11A		569	USSR	22 APR	27 APR 63
1963 11B		570	USSR	22 APR	1 MAY 63
1963 12A		571	USSR	28 APR	8 MAY 63
1963 12B		572	USSR	28 APR	20 MAY 63
1963 15A	FAITH 7	576	US	15 MAY	16 MAY 63
1963 15B	ROCKET BODY	577	US	15 MAY	16 MAY 63
1963 16A		578	US	18 MAY	27 MAY 63
1963 17A		580	USSR	22 MAY	2 JUN 63
1963 17B		581	USSR	22 MAY	26 AUG 63
1963 17C		582	USSR	22 MAY	12 MAY 65
1963 17D		583	USSR	22 MAY	30 AUG 63
1963 17E		584	USSR	22 MAY	25 JUL 63
1963 17F		585	USSR	22 MAY	30 SEP 63
1963 17G		588	USSR	22 MAY	2 APR 64
1963 18A		586	USSR	24 MAY	2 JUN 63
1963 18B		587	USSR	24 MAY	8 JUN 63
1963 19A		590	US	12 JUN	12 JUN 63
1963 20A	VOSTOK 5	591	USSR	14 JUN	19 JUN 63
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## DECAYED OBJECTS (CONTINUED)

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1963 LAUNCHES (CONT'D)					
1963 20B		592	USSR	14 JUN	16 JUN 63
1963 21A		593	US	15 JUN	7 AUG 63
1963 21B	LOFTI 2A	601	US	15 JUN	18 JUL 63
1963 21C	SOLAR RADIATION	599	US	15 JUN	1 AUG 63
1963 21D		600	US	15 JUN	30 JUL 63
1963 21E		598	US	15 JUN	27 JUL 63
1963 21F		597	US	15 JUN	5 JUL 63
1963 21G		617	US	15 JUN	3 JUL 63
1963 23A	VOSTOK 6	595	USSR	16 JUN	19 JUN 63****
1963 23B		596	USSR	16 JUN	18 JUN 63
1963 25A		609	US	27 JUN	26 JUL 63
1963 27B		615	US	29 JUN	14-15 NOV 64
1963 27C		616	US	29 JUN	10 JUL 63
1963 28A		618	US	12 JUL	18 JUL 63
1963 28B		619	US	12 JUL	13 JUL 63
1963 28C		620	US	12 JUL	16 JUL 63
1963 29A		621	US	18 JUL	13 AUG 63
1963 29B		623	US	18 JUL	29 JUL 63
1963 32A		626	US	31 JUL	11 AUG 63
1963 32B		627	US	31 JUL	10 AUG 63
1963 33A		632	USSR	6 AUG	30 MAR 64
1963 33B		633	USSR	6 AUG	8-9 DEC 63
1963 34A		636	US	24 AUG	12 SEP 63
1963 34B		642	US	24 AUG	8 SEP 63
1963 35A		637	US	29 AUG	7 NOV 63
1963 35B		638	US	29 AUG	23-29 SEP 63
1963 35C		639	US	29 AUG	2 SEP 63
1963 35D		640	US	29 AUG	1 SEP 63
1963 36A		641	US	6 SEP	13 SEP 63
1963 36B		663	US	6 SEP	13-14 SEP 63
1963 36C		664	US	6 SEP	10 SEP 63

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1963 LAUNCHES (CONT'D)					
1963 36D		665	US	6 SEP	8 SEP 63
1963 36E		666	US	6 SEP	10-11 SEP 63
1963 36F		667	US	6 SEP	10 SEP 63
1963 37A		668	US	24 SEP	12 OCT 63
1963 40A		673	USSR	18 OCT	28-29 OCT 63
1963 40B	COSMOS 20	676	USSR	18 OCT	30-31 OCT 63
1963 41A		677	US	25 OCT	29 OCT 63
1963 41B		678	US	25 OCT	28-29 OCT 63
1963 41C		679	US	25 OCT	28-29 OCT 63
1963 41D		680	US	25 OCT	28-29 OCT 63
1963 42A		681	US	29 OCT	21 JAN 64
1963 42B		682	US	29 OCT	23 MAY 65
1963 42C		691	US	29 OCT	27 NOV 63
1963 43C		685	USSR	1 NOV	29 OCT 65
1963 44A	COSMOS 21	687	USSR	11 NOV	14 NOV 63
1963 44B		688	USSR	11 NOV	12 NOV 63
1963 45A	COSMOS 22	689	USSR	16 NOV	22 NOV 63
1963 45B		690	USSR	16 NOV	3 DEC 63
1963 48A		695	US	27 NOV	15 DEC 63
1963 50A	COSMOS 23	707	USSR	13 DEC	27 MAR 64
1963 50B		708	USSR	13 DEC	6 MAR 64
1963 50C		709	USSR	13 DEC	3 JAN 64
1963 50D		710	USSR	13 DEC	1 JAN 64
1963 51A		711	US	18 DEC	20 DEC 63
1963 52A	COSMOS 24	712	USSR	19 DEC	28 DEC 63
1963 52B		713	USSR	19 DEC	25 JAN 64
1963 55A		718	US	21 DEC	8 JAN 64
1963 55B		719	US	21 DEC	7 NOV 64

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES					
1964 07A	RANGER 6	747	US	30 JAN	2 FEB 64 *****
1964 08A		752	US	15 FEB	9 MAR 64
1964 08B		755	US	15 FEB	21 FEB 64
1964 09A		754	US	25 FEB	1 MAR 64
1964 09B		756	US	25 FEB	26 FEB 64
1964 10A	COSMOS 25	757	USSR	27 FEB	21 NOV 64
1964 10B		758	USSR	27 FEB	18 JUN 64
1964 10C		762	USSR	27 FEB	4 MAR 64
1964 10D		763	USSR	27 FEB	23 APR 64
1964 11B		760	US	28 FEB	17 AUG 65
1964 11C		761	US	28 FEB	21 SEP 65
1964 12A		764	US	11 MAR	16 MAR 64
1964 12B		765	US	11 MAR	12 MAR 64
1964 13A	COSMOS 26	776	USSR	18 MAR	28 SEP 64
1964 13B		767	USSR	18 MAR	17 MAY 64
1964 13C		768	USSR	18 MAR	20-22 APR 64
1964 13D		769	USSR	18 MAR	24-25 MAR 64
1964 14A		770	USSR	27 MAR	28 MAR 64
1964 14B		772	USSR	27 MAR	29 MAR 64
1964 14C		773	USSR	27 MAR	30-31 MAR 64
1964 14D		774	USSR	27 MAR	3-4 APR 64
1964 16A		776	USSR	2 APR	3 APR 64
1964 16B		777	USSR	2 APR	2 APR 64
1964 16C		778	USSR	2 APR	5 APR 64
1964 17A	COSMOS 28	779	USSR	4 APR	12 APR 64
1964 17B		780	USSR	4 APR	3 MAY 64
1964 17C		781	USSR	4 APR	6-7 APR 64
1964 18A	GEMINI 1	782	US	8 APR	12 APR 64
1964 19A		783	USSR	12 APR	30 APR-1 MAY 64

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 20A		786	US	23 APR	28-29 APR 64
1964 20B		787	US	23 APR	26 APR 64
1964 20C		788	US	23 APR	25 APR 64
1964 20D		789	US	23 APR	25 APR 64
1964 20E		790	US	23 APR	25 APR 64
1964 21A	COSMOS 29	791	USSR	25 APR	2 MAY 64
1964 21B		792	USSR	25 APR	11 MAY 64
1964 21C		793	USSR	25 APR	26-27 APR 64
1964 21D		794	USSR	25 APR	27-28 APR 64
1964 21E		795	USSR	25 APR	27 APR 64
1964 22A		796	US	27 APR	26 MAY 64
1964 23A	COSMOS 30	797	USSR	18 MAY	26 MAY 64
1964 23B		798	USSR	18 MAY	7 JUN 64
1964 24A		799	US	19 MAY	22 MAY 64
1964 25A	SATURN 6	800	US	28 MAY	1 JUN 64
1964 27A		802	US	4 JUN	18 JUN 64
1964 28A	COSMOS 31	803	USSR	6 JUN	20 OCT 64
1964 28B		804	USSR	6 JUN	16 AUG 64
1964 29A		807	USSR	10 JUN	18 JUN 64
1964 29B		808	USSR	10 JUN	14 JUL 64
1964 29C	COSMOS 32	810	USSR	10 JUN	12 JUN 64
1964 30A		811	US	13 JUN	2 JUL 64
1964 30B		820	US	13 JUN	7 AUG 64
1964 32A		814	US	19 JUN	16 AUG 64
1964 32B		821	US	19 JUN	2 JUL 64
1964 33A	COSMOS 33	816	USSR	23 JUN	1 JUL 64
1964 33B		817	USSR	23 JUN	10 JUL 64

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 33C		818	USSR	23 JUN	24 JUN 64
1964 33D		819	USSR	23 JUN	24 JUN 64
1964 34A	COSMOS 34	822	USSR	1 JUL	9 JUL 64
1964 34B		823	USSR	1 JUL	15 JUL 64
1964 36A		825	US	6 JUL	8 JUL 64
1964 36B		826	US	6 JUL	3 JAN 65
1964 36C		827	US	6 JUL	19 JUL 64
1964 37A		828	US	10 JUL	6 AUG 64
1964 39A	COSMOS 35	833	USSR	15 JUL	23 JUL 64
1964 39B		834	USSR	15 JUL	1 AUG 64
1964 39C		835	USSR	15 JUL	31 JUL 64
1964 39D		839	USSR	15 JUL	25 JUL 64
1964 41A	RANGER 7	842	US	28 JUL	31 JUL 64
1964 42A	COSMOS 36	844	USSR	30 JUL	28 FEB 65
1964 42B		845	USSR	30 JUL	29 NOV 64
1964 43A		846	US	5 AUG	31 AUG-1 SEP 64
1964 44A		848	USSR	14 AUG	22 SEP 64
1964 44B		849	USSR	14 AUG	3 SEP 64
1964 45A		850	US	14 AUG	23 SEP 64
1964 45C		852	US	14 AUG	16 AUG 64
1964 46A		853	USSR	18 AUG	8 NOV 64
1964 46B	COSMOS 38	854	USSR	18 AUG	17 NOV 64
1964 46C		855	USSR	18 AUG	18 NOV 64
1964 46D		856	USSR	18 AUG	19 FEB 65
1964 46E		857	USSR	18 AUG	10 SEP 64
1964 46F		859	USSR	18 AUG	6 SEP 64
1964 46G		860	USSR	18 AUG	6 SEP 64

**DECAYED OBJECTS (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 48A		861	US	21 AUG	31 MAR 65
1964 49A	COSMOS 41	863	USSR	22 AUG	15 SEP 64
1964 49B		865	USSR	22 AUG	28 SEP 64
1964 49C		868	USSR	22 AUG	30 AUG 64
1964 50B		866	USSR	22 AUG	2 AUG 65
1964 55A		880	USSR	13 SEP	18 SEP 64
1964 55B		881	USSR	13 SEP	27 SEP 64
1964 56A		882	US	14 SEP	6 OCT 64
1964 56B		888	US	14 SEP	22 SEP 64
1964 57A	SATURN 7	883	US	18 SEP	22 SEP 64
1964 58A		884	US	23 SEP	28 SEP 64
1964 58B		887	US	23 SEP	26 SEP 64
1964 59A	COSMOS 46	885	USSR	24 SEP	2 OCT 64
1964 59B		886	USSR	24 SEP	7 OCT 64
1964 61A		890	US	5 OCT	26 OCT 64
1964 62A		891	USSR	6 OCT	7 OCT 64
1964 62B		892	USSR	6 OCT	13-14 OCT 64
1964 62C		894	USSR	6 OCT	9 OCT 64
1964 62D		895	USSR	6 OCT	12 OCT 64
1964 62E		896	USSR	6 OCT	9 OCT 64
1964 65A	VOSKHOD 1	904	USSR	12 OCT	13 OCT 64
1964 65B		905	USSR	12 OCT	20 OCT 64
1964 65C		906	USSR	12 OCT	13 OCT 64
1964 66A		908	USSR	14 OCT	20 OCT 64
1964 66B		909	USSR	14 OCT	28 OCT 64
1964 66C	COSMOS 48	910	USSR	14 OCT	16 OCT 64
1964 67A		911	US	17 OCT	4 NOV 64

## DECAYED OBJECTS

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 68A		912	US	23 OCT	28 OCT 64
1964 68B		914	US	23 OCT	23 FEB 65
1964 68C		916	US	23 OCT	3-4 NOV 64
1964 68D		918	US	23 OCT	29 OCT 64
1964 69A	COSMOS 49	913	USSR	24 OCT	21 AUG 65
1964 69C		917	USSR	24 OCT	17 NOV 64
1964 69B		915	USSR	24 OCT	10 FEB 65
1964 70A		919	USSR	28 OCT	5 NOV 64
1964 70B		920	USSR	28 OCT	1-2 NOV 64
1964 70C		928	USSR	28 OCT	13 NOV 64
1964 70D		929	USSR	28 OCT	15 NOV 64
1964 70E		989	USSR	28 OCT	13 NOV 64
1964 70F		990	USSR	28 OCT	11 NOV 64
1964 70G		991	USSR	28 OCT	8 NOV 64
1964 70H		992	USSR	28 OCT	13 NOV 64
1964 70J		993	USSR	28 OCT	12 NOV 64
1964 70K		994	USSR	28 OCT	13 NOV 64
1964 70L		995	USSR	28 OCT	11 NOV 64
1964 70M		996	USSR	28 OCT	12 NOV 64
1964 70N		997	USSR	28 OCT	14 NOV 64
1964 70P		998	USSR	28 OCT	10 NOV 64
1964 70Q		999	USSR	28 OCT	12 NOV 64
1964 70R		1003	USSR	28 OCT	11 NOV 64
1964 70S		1004	USSR	28 OCT	14 NOV 64
1964 70T		1005	USSR	28 OCT	12 NOV 64
1964 70U		1006	USSR	28 OCT	12 NOV 64
1964 70V		1007	USSR	28 OCT	12 NOV 64
1964 70W		1008	USSR	28 OCT	12 NOV 64
1964 70X		1009	USSR	28 OCT	13 NOV 64
1964 70Y		1010	USSR	28 OCT	13 NOV 64

**DECAYED OBJECTS (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 70Z		1011		28 OCT	9 NOV 64
1964 70AA		1012	USSR	28 OCT	10 NOV 64
1964 70AB		1013	USSR	28 OCT	9 NOV 64
1964 70AC		1014	USSR	28 OCT	17 NOV 64
1964 70AD		1015	USSR	28 OCT	12 NOV 64
1964 70AE		1016	USSR	28 OCT	13 NOV 64
1964 70AF		1017	USSR	28 OCT	11 NOV 64
1964 70AG		1018	USSR	28 OCT	13 NOV 64
1964 70AH		1019	USSR	28 OCT	11 NOV 64
1964 70AJ		1020	USSR	28 OCT	14 NOV 64
1964 70AK		1021	USSR	28 OCT	13 NOV 64
1964 70AL		1022	USSR	28 OCT	12 NOV 64
1964 70AM		1023	USSR	28 OCT	12 NOV 64
1964 70AN		1024	USSR	28 OCT	14 NOV 64
1964 70AP		1025	USSR	28 OCT	13 NOV 64
1964 70AQ		1026	USSR	28 OCT	12 NOV 64
1964 70AR		1027	USSR	28 OCT	12 NOV 64
1964 70AS		1028	USSR	28 OCT	13 NOV 64
1964 70AT		1029	USSR	28 OCT	12 NOV 64
1964 70AU		1030	USSR	28 OCT	13 NOV 64
1964 70AV		1031	USSR	28 OCT	13 NOV 64
1964 70AW		1032	USSR	28 OCT	16 NOV 64
1964 70AX		1033	USSR	28 OCT	11 NOV 64
1964 70AY		1034	USSR	28 OCT	9 NOV 64
1964 70AZ		1035	USSR	28 OCT	13 NOV 64
1964 70BA		1036	USSR	28 OCT	12 NOV 64
1964 70BB		1037	USSR	28 OCT	12 NOV 64
1964 70BC		1038	USSR	28 OCT	15 NOV 64
1964 70BD		1039	USSR	28 OCT	13 NOV 64

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 70BE		1040	SSR	28 OCT	13 NOV 64
1964 70BF		1041	USSR	28 OCT	12 NOV 64
1964 70BG		1042	USSR	28 OCT	13 NOV 64
1964 70BH		1043	USSR	28 OCT	12 NOV 64
1964 70BJ		1044	USSR	28 OCT	17 NOV 64
1964 70BK		1045	USSR	28 OCT	17 NOV 64
1964 70BL		1046	USSR	28 OCT	12 NOV 64
1964 70BM		1047	USSR	28 OCT	11 NOV 64
1964 70BN		1048	USSR	28 OCT	14 NOV 64
1964 70BP		1049	USSR	28 OCT	15 NOV 64
1964 70BQ		1050	USSR	28 OCT	14 NOV 64
1964 70BR		1051	USSR	28 OCT	12 NOV 64
1964 70BS		1052	USSR	28 OCT	13 NOV 64
1964 70BT		1053	USSR	28 OCT	13 NOV 64
1964 70BU		1054	USSR	28 OCT	13 NOV 64
1964 70BV		1055	USSR	28 OCT	11 NOV 64
1964 70BW		1056	USSR	28 OCT	13 NOV 64
1964 70BX		1057	USSR	28 OCT	12 NOV 64
1964 70BY		1058	USSR	28 OCT	13 NOV 64
1964 70BZ		1059	USSR	28 OCT	11 NOV 64
1964 70CA		1060	USSR	28 OCT	10 NOV 64
1964 70CB		1061	USSR	28 OCT	9 NOV 64
1964 70CC		1062	USSR	28 OCT	16 NOV 64
1964 70CD		1063	USSR	28 OCT	11 NOV 64
1964 70CE		1064	USSR	28 OCT	15 NOV 64
1964 70CF		1065	USSR	28 OCT	17 NOV 64
1964 70CG		1066	USSR	28 OCT	11 NOV 64

**DECAYED OBJECTS (CONTINUED)**

**1964 LAUNCHES (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 70CH		1067		28 OCT	17 NOV 64
1964 70CJ		1068	USSR	28 OCT	14 NOV 64
1964 70CK		1069	USSR	28 OCT	16 NOV 64
1964 70CL		1070	USSR	28 OCT	13 NOV 64
1964 70CM		1071	USSR	28 OCT	12 NOV 64
1964 70CN		1072	USSR	28 OCT	10 NOV 64
1964 70CP		1073	USSR	28 OCT	12 NOV 64
1964 70CQ		1074	USSR	28 OCT	13 NOV 64
1964 70CR		1075	USSR	28 OCT	13 NOV 64
1964 70CS		1076	USSR	28 OCT	13 NOV 64
1964 70CT		1077	USSR	28 OCT	14 NOV 64
1964 70CU		1078	USSR	28 OCT	12 NOV 64
1964 70CV		1079	USSR	28 OCT	12 NOV 64
1964 70CW		1080	USSR	28 OCT	17 NOV 64
1964 70CX		1081	USSR	28 OCT	11 NOV 64
1964 70CY		1082	USSR	28 OCT	11 NOV 64
1964 70CZ		1083	USSR	28 OCT	11 NOV 64
1964 70DA		1084	USSR	28 OCT	11 NOV 64
1964 71A		921	US	2 NOV	28 NOV 64
1964 75B		930	US	18 NOV	6 DEC 64
1964 78A		943	USSR	30 NOV	1 DEC 64
1964 78B		944	USSR	30 NOV	2 DEC 64
1964 79A		946	US	4 DEC	5 DEC 64
1964 80B		948	USSR	9 DEC	11 MAY 65
1964 80C		950	USSR	9 DEC	29 DEC 64
1964 80D		952	USSR	9 DEC	1 JAN 65
1964 80E		954	USSR	9 DEC	1 JAN 65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1964 LAUNCHES (CONT'D)					
1964 80F		955	USSR	9 DEC	2 JAN 65
1964 81A		949	US	10 DEC	13 DEC 64
1964 82A	CENTUAR 4	951	US	11 DEC	12 DEC 64
1964 84A	SAN MARCO 1	957	ITALY	15 DEC	13 SEP 65
1964 84B		958	US	15 DEC	6-7 FEB 65
1964 84C		962	US	15 DEC	21 JAN 65
1964 85A		961	US	19 DEC	14 JAN 65
1964 87A		964	US	21 DEC	11 JAN 65
1965 LAUNCHES					
1965 01A	COSMOS 52	968	USSR	11 JAN	19 JAN 65
1965 01B		969	USSR	11 JAN	29 JAN 65
1965 01C		970	USSR	11 JAN	13-14 JAN 65
1965 01D		971	USSR	11 JAN	13-14 JAN 65
1965 02A		972	US	15 JAN	9 FEB 65
1965 02B		982	US	15 JAN	30 JAN 65
1965 03B		974	US	19 JAN	17 JUN 65
1965 03C		975	US	19 JAN	9 JUL 65
1965 05A		980	US	23 JAN	28-29 JAN 65
1965 05B		981	US	23 JAN	25 JAN 65
1965 06C		985	USSR	30 JAN	4-5 MAR 65
1965 06D		986	USSR	30 JAN	4 MAR 65
1965 10A	RANGER 8	1086	US	17 FEB	20 FEB 65
1965 12A	COSMOS 57	1093	USSR	22 FEB	22 FEB 65
1965 12B		1095	USSR	22 FEB	5-6 MAR 65
1965 12C		1100	USSR	22 FEB	9 MAR 65

**DECAYED OBJECTS**

**1965 LAUNCHES (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 12D		1101		22 FEB	25 FEB 65
1965 12E		1102	USSR	22 FEB	26 FEB 65
1965 12F		1103	USSR	22 FEB	2 MAR 65
1965 12G		1104	USSR	22 FEB	10 MAR 65
1965 12H		1105	USSR	22 FEB	25 FEB 65
1965 12J		1106	USSR	22 FEB	2 MAR 65
1965 12K		1107	USSR	22 FEB	25 MAR 65
1965 12L		1108	USSR	22 FEB	1 MAR 65
1965 12M		1109	USSR	22 FEB	26 FEB 65
1965 12N		1110	USSR	22 FEB	27 FEB 65
1965 12P		1111	USSR	22 FEB	2 MAR 65
1965 12Q		1112	USSR	22 FEB	1 MAR 65
1965 12R		1113	USSR	22 FEB	25 FEB 65
1965 12S		1114	USSR	22 FEB	3 MAR 65
1965 12T		1115	USSR	22 FEB	27 FEB 65
1965 12U		1116	USSR	22 FEB	4 MAR 65
1965 12V		1117	USSR	22 FEB	2 MAR 65
1965 12W		1118	USSR	22 FEB	1 MAR 65
1965 12X		1119	USSR	22 FEB	1 MAR 65
1965 12Y		1120	USSR	22 FEB	2 MAR 65
1965 12Z		1121	USSR	22 FEB	1 MAR 65
1965 12AA		1122	USSR	22 FEB	2 MAR 65
1965 12AB		1123	USSR	22 FEB	27 FEB 65
1965 12AC		1124	USSR	22 FEB	1 MAR 65
1965 12AD		1125	USSR	22 FEB	2 MAR 65
1965 12AE		1126	USSR	22 FEB	28 FEB 65
1965 12AF		1127	USSR	22 FEB	5 MAR 65
1965 12AG		1128	USSR	22 FEB	5 MAR 65
1965 12AH		1129	USSR	22 FEB	11 MAR 65
1965 12AJ		1130	USSR	22 FEB	

**DECAYED OBJECTS**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
<b>1965 LAUNCHES (CONT'D)</b>					
1965 12AK		1131	USSR	22 FEB	7 MAR 65
1965 12AL		1132	USSR	22 FEB	7 MAR 65
1965 12AM		1133	USSR	22 FEB	21 MAR 65
1965 12AN		1134	USSR	22 FEB	19 MAR 65
1965 12AP		1135	USSR	22 FEB	13 MAR 65
1965 12AQ		1136	USSR	22 FEB	17 MAR 65
1965 12AR		1137	USSR	22 FEB	9 MAR 65
1965 12AS		1138	USSR	22 FEB	8 MAR 65
1965 12AT		1139	USSR	22 FEB	10 MAR 65
1965 12AU		1140	USSR	22 FEB	25 MAR 65
1965 12AV		1141	USSR	22 FEB	10 MAR 65
1965 12AW		1142	USSR	22 FEB	14 MAR 65
1965 12AX		1143	USSR	22 FEB	20 MAR 65
1965 12AY		1144	USSR	22 FEB	21 MAR 65
1965 12AZ		1145	USSR	22 FEB	21 MAR 65
1965 12BA		1146	USSR	22 FEB	17 MAR 65
1965 12BB		1147	USSR	22 FEB	17 MAR 65
1965 12BC		1148	USSR	22 FEB	11 MAR 65
1965 12BD		1149	USSR	22 FEB	19 MAR 65
1965 12BE		1150	USSR	22 FEB	17 MAR 65
1965 12BF		1151	USSR	22 FEB	10 MAR 65
1965 12BG		1152	USSR	22 FEB	16 MAR 65
1965 12BH		1153	USSR	22 FEB	7 MAR 65
1965 12BJ		1154	USSR	22 FEB	7 MAR 65
1965 12BK		1155	USSR	22 FEB	7 MAR 65

## DECAYED OBJECTS

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 LAUNCHES (CONT'D)					
1965 12BL	1156	USSR	22 FEB	18 MAR 65	
1965 12BM	1157	USSR	22 FEB	13 MAR 65	
1965 12BN	1158	USSR	22 FEB	4 MAR 65	
1965 12BP	1159	USSR	22 FEB	18 MAR 65	
1965 12BQ	1160	USSR	22 FEB	4 MAR 65	
1965 12BR	1161	USSR	22 FEB	5 MAR 65	
1965 12BS	1162	USSR	22 FEB	25 MAR 65	
1965 12BT	1163	USSR	22 FEB	5 MAR 65	
1965 12BU	1164	USSR	22 FEB	13 MAR 65	
1965 12BV	1165	USSR	22 FEB	9 MAR 65	
1965 12BW	1166	USSR	22 FEB	7 MAR 65	
1965 12BX	1167	USSR	22 FEB	20 MAR 65	
1965 12BY	1168	USSR	22 FEB	6 MAR 65	
1965 12BZ	1169	USSR	22 FEB	5 MAR 65	
1965 12CA	1170	USSR	22 FEB	4 MAR 65	
1965 12CB	1171	USSR	22 FEB	5 MAR 65	
1965 12CC	1172	USSR	22 FEB	5 MAR 65	
1965 12CD	1173	USSR	22 FEB	4 MAR 65	
1965 12CE	1174	USSR	22 FEB	22 MAR 65	
1965 12CF	1175	USSR	22 FEB	5 MAR 65	
1965 12CG	1176	USSR	22 FEB	5 MAR 65	
1965 12CH	1177	USSR	22 FEB	27 MAR 65	
1965 12CJ	1178	USSR	22 FEB	5 MAR 65	
1965 12CK	1179	USSR	22 FEB	16 MAR 65	
1965 12CL	1180	USSR	22 FEB	4 MAR 65	

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 LAUNCHES (CONT'D)					
1965 12CM	1181	USSR	22 FEB	6 MAR	65
1965 12CN	1182	USSR	22 FEB	7 MAR	65
1965 12CP	1183	USSR	22 FEB	8 MAR	65
1965 12CQ	1184	USSR	22 FEB	7 MAR	65
1965 12CR	1185	USSR	22 FEB	11 MAR	65
1965 12CS	1186	USSR	22 FEB	1 MAR	65
1965 12CT	1187	USSR	22 FEB	1 MAR	65
1965 12CU	1188	USSR	22 FEB	1 MAR	65
1965 12CV	1189	USSR	22 FEB	1 MAR	65
1965 12CW	1190	USSR	22 FEB	1 MAR	65
1965 12CX	1194	USSR	22 FEB	16 MAR	65
1965 12CY	1195	USSR	22 FEB	9 MAR	65
1965 12CZ	1196	USSR	22 FEB	9 MAR	65
1965 12DA	1197	USSR	22 FEB	21 MAR	65
1965 12DB	1198	USSR	22 FEB	4 MAR	65
1965 12DC	1199	USSR	22 FEB	17 MAR	65
1965 12DD	1200	USSR	22 FEB	11 MAR	65
1965 12DE	1201	USSR	22 FEB	4 MAR	65
1965 12DF	1202	USSR	22 FEB	9 MAR	65
1965 12DG	1203	USSR	22 FEB	14 MAR	65
1965 12DH	1204	USSR	22 FEB	15 MAR	65
1965 12DJ	1205	USSR	22 FEB	16 MAR	65
1965 12DK	1206	USSR	22 FEB	9 MAR	65
1965 12DL	1209	USSR	22 FEB	11 MAR	65
1965 12DM	1210	USSR	22 FEB	4 MAR	65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 LAUNCHES (CONT'D)					
1965 12DN	1211	USSR	22 FEB	16 MAR 65	
1965 12DP	1212	USSR	22 FEB	12 MAR 65	
1965 12DQ	1213	USSR	22 FEB	14 MAR 65	
1965 12DR	1214	USSR	22 FEB	20 MAR 65	
1965 12DS	1215	USSR	22 FEB	16 MAR 65	
1965 12DT	1216	USSR	22 FEB	17 MAR 65	
1965 12DU	1217	USSR	22 FEB	28 MAR 65	
1965 12DV	1218	USSR	22 FEB	20 MAR 65	
1965 12DW	1219	USSR	22 FEB	14 MAR 65	
1965 12DX	1220	USSR	22 FEB	12 MAR 65	
1965 12DY	1221	USSR	22 FEB	18 MAR 65	
1965 12DZ	1222	USSR	22 FEB	12 MAR 65	
1965 12EA	1223	USSR	22 FEB	31 MAR 65	
1965 12EB	1224	USSR	22 FEB	16 MAR 65	
1965 12EC	1225	USSR	22 FEB	14 MAR 65	
1965 12ED	1226	USSR	22 FEB	13 MAR 65	
1965 12EE	1227	USSR	22 FEB	11 MAR 65	
1965 12EF	1229	USSR	22 FEB	29 MAR 65	
1965 12EG	1230	USSR	22 FEB	13 MAR 65	
1965 12EH	1231	USSR	22 FEB	17 MAR 65	
1965 12EJ	1232	USSR	22 FEB	24 MAR 65	
1965 12EK	1233	USSR	22 FEB	20 MAR 65	
1965 12EL	1234	USSR	22 FEB	20 MAR 65	
1965 12EM	1235	USSR	22 FEB	17 MAR 65	
1965 12EN	1236	USSR	22 FEB	17 MAR 65	

**DECAYED OBJECTS (CONTINUED)**

**1965 LAUNCHES (CONT'D)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 12EP		1237	USSR	22 FEB	20 MAR 65
1965 12EQ		1238	USSR	22 FEB	17 MAR 65
1965 12ER		1239	USSR	22 FEB	29 MAR 65
1965 12ES		1240	USSR	22 FEB	17 MAR 65
1965 12ET		1241	USSR	22 FEB	17 MAR 65
1965 12EU		1242	USSR	22 FEB	24 MAR 65
1965 12EV		1243	USSR	22 FEB	17 MAR 65
1965 12EW		1254	USSR	22 FEB	12 MAR 65
1965 12EX		1255	USSR	22 FEB	20 MAR 65
1965 12EY		1256	USSR	22 FEB	21 MAR 65
1965 12EZ		1257	USSR	22 FEB	21 MAR 65
1965 12FA		1258	USSR	22 FEB	17 MAR 65
1965 12FB		1261	USSR	22 FEB	6 APR 65
1965 12FC		1262	USSR	22 FEB	15 MAR 65
1965 12FD		1263	USSR	22 FEB	21 MAR 65
1965 12FE		1264	USSR	22 FEB	26 MAR 65
1965 12FF		1265	USSR	22 FEB	15 MAR 65
1965 12FG		1266	USSR	22 FEB	6 MAR 65
1965 12FH		1275	USSR	22 FEB	21 MAR 65
1965 12FJ		1276	USSR	22 FEB	20 MAR 65
1965 12FK		1277	USSR	22 FEB	20 MAR 65
1965 12FL		1278	USSR	22 FEB	22 MAR 65
1965 12FM		1279	USSR	22 FEB	31 MAR 65
1965 12FN		1280	USSR	22 FEB	24 MAR 65
1965 12FP		1281	USSR	22 FEB	19 MAR 65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
<b>1965 LAUNCHES (CONT'D)</b>					
1965 12FQ		1282	USSR	22 FEB	21 MAR 65
1965 12FR		1283	USSR	22 FEB	23 MAR 65
1965 12FS		1284	USSR	22 FEB	19 MAR 65
1965 12FT		1295	USSR	22 FEB	20 MAR 65
1965 12FT		1296	USSR	22 FEB	15 MAR 65
1965 12FU		1297	USSR	22 FEB	22 MAR 65
1965 12FV		1299	USSR	22 FEB	20 MAR 65
1965 12FW		1300	USSR	22 FEB	23 MAR 65
1965 12FX		1304	USSR	22 FEB	28 MAR 65
1965 12FY		1309	USSR	22 FEB	28 MAR 65
1965 12FZ		1096	US	25 FEB	18 MAR 65
1965 13A		1193	US	25 FEB	10-11 MAR 65
1965 13B		1191	USSR	7 MAR	15 MAR 65
1965 15A	COSMOS 59	1192	USSR	7 MAR	19 MAR 65
1965 15B		1207	USSR	7 MAR	10-11 MAR 65
1965 15C		1303	US	11 MAR	14 JUN 65
1965 17A		1251	US	11 MAR	1 AUG 65
1965 17E		1249	US	11 MAR	10 SEP 65
1965 17F		1319	US	11 MAR	28 JUN 65
1965 17G		1246	USSR	12 MAR	17 MAR 65
1965 18A	COSMOS 60	1252	USSR	12 MAR	16-17 MAR 65
1965 18B		1253	USSR	12 MAR	15 MAR 65
1965 18C		1247	US	12 MAR	17 MAR 65
1965 19A		1259	US	12 MAR	16 MAR 65
1965 19B		1260	US	12 MAR	21 MAR 65
1965 19C					

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 LAUNCHES (CONT'D)					
1965 20AB		1356	USSR	15 MAR	14 AUG 65
1965 20AG		1375	USSR	15 MAR	14 OCT 65
1965 20AL		1400	USSR	15 MAR	5 OCT 65
1965 20AT		1417	USSR	15 MAR	9 SEP 65
1965 20AU		1418	USSR	15 MAR	10 AUG 65
1965 20AX		1437	USSR	15 MAR	28 OCT 65
1965 20AV		1419	USSR	15 MAR	1 SEP 65
1965 20BU		1494	USSR	15 MAR	4 SEP 65
1965 20DG		1560	USSR	15 MAR	13 OCT 65
1965 21B		1288	US	18 MAR	5 OCT 65
1965 21D		1290	US	18 MAR	1 OCT 65
1965 22A	VOISKHOD 2	1274	USSR	18 MAR	19 MAR 65
1965 22B		1285	USSR	18 MAR	27 MAR 65
1965 22C		1286	USSR	18 MAR	25 MAR 65
1965 22D		1287	USSR	18 MAR	19 MAR 65
1965 23A	RANGER 9	1294	US	21 MAR	24 MAR 65
1965 24A	GT-3	1301	US	23 MAR	23 MAR 65
1965 24B		1302	USSR	23 MAR	24 MAR 65
1965 25A	COSMOS 64	1305	USSR	25 MAR	2 APR 65
1965 25B		1306	USSR	25 MAR	4 APR 65
1965 25C		1308	USSR	25 MAR	26 APR 65
1965 26A		1307	US	25 MAR	4-5 APR 65
1965 29A	COSMOS 65	1320	USSR	17 APR	25 APR 65
1965 29B	ROCKET BODY	1321	USSR	17 APR	6 MAY 65
1965 29C		1322	USSR	17 APR	20 APR 65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
<b>1965 LAUNCHES (CONT'D)</b>					
1965 30B	ROCKET BODY	1325	USSR	23 APR	20 JUL 65
1965 30C		1326	USSR	23 APR	2 JUL 65
1965 31A		1327	US	28 APR	3 MAY 65
1965 31C		1331	US	28 APR	30 APR 65
1965 31D		1332	US	28 APR	30 APR 65
1965 31E		1333	US	28 APR	3-4 MAY 65
1965 31F		1334	US	28 APR	8 MAY 65
1965 33A		1330	US	29 APR	26 MAY 65
1965 33B		1367	US	29 APR	8 JUN 65
1965 35A	COSMOS 66	1362	USSR	7 MAY	15 MAY 65
1965 35B		1363	USSR	7 MAY	24 MAY 65
1965 35C		1364	USSR	7 MAY	9 MAY 65
1965 35D		1365	USSR	7 MAY	9 MAY 65
1965 36A	LUNIK 5	1366	USSR	9 MAY	12 MAY 65
1965 36B		1368	USSR	9 MAY	10 MAY 65
1965 36C		1369	USSR	9 MAY	10 MAY 65
1965 37A		1374	US	18 MAY	16 JUN 65
1965 37B		1415	US	13 MAY	2 JUN 65
1965 40A	COSMOS 67	1382	USSR	25 MAY	2 JUN 65
1965 40B	ROCKET BODY	1383	USSR	25 MAY	4 JUN 65
1965 40C		1384	USSR	25 MAY	30-31 MAY 65
1965 40D		1387	USSR	25 MAY	30-31 MAY 65
1965 41A		1386	US	2 MAY	1 JUN 65
1965 43A	GT-4	1390	US	3 JUN	7 JUN 65 ***
1965 43B	ROCKET BODY	1391	US	3 JUN	5 JUN 65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 LAUNCHES (CONT'D)					
1965 44B		1394	USSR	8 JUN	12 JUN 65
1965 44C		1395	USSR	8 JUN	10 JUN 65
1965 45A		1396	US	9 JUN	22 JUN 65
1965 45B		1414	US	9 JUN	20 JUN 65
1965 46A	COSMOS 68	1404	USSR	15 JUN	23 JUN 65
1965 46B		1405	USSR	15 JUN	7 JUL 65
1965 46C		1406	USSR	15 JUN	20 JUN 65
1965 46D		1407	USSR	15 JUN	19 JUN 65
1965 46E		1408	USSR	15 JUN	19 JUN 65
1965 47A		1412	US	18 JUN	29 JUN 65
1965 47B		1413	US	18 JUN	21 JUN 65
1965 49A	COSMOS 69	1421	USSR	25 JUN	3 JUL 65
1965 49B		1423	USSR	25 JUN	6 JUL 65
1965 49C		1429	USSR	25 JUN	30 JUN 65
1965 50B		1424	US	25 JUN	30 JUN 65
1965 50C		1426	US	25 JUN	27 JUN 65
1965 54A	PROTON 1	1466	USSR	16 JUL	11 OCT 65
1965 54B		1451	USSR	16 JUL	18 SEP 65
1965 54C		1450	USSR	16 JUL	24 JUL 65
1965 54D		1446	USSR	16 JUL	31 JUL 65
1965 56B		1453	USSR	18 JUL	20 JUL 65
1965 56C		1456	USSR	18 JUL	21 JUL 65
1965 61A	COSMOS 77	1469	USSR	3 AUG	11 AUG 65
1965 61B		1470	USSR	3 AUG	8 AUG 65
1965 62A		1471	US	7 AUG	7 AUG 65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
1965 LAUNCHES (CONT'D)					
1965 52C		1434	USSR	2 JUL	13 AUG 65
1965 57A		1457	US	19 JUL	18 AUG 65
1965 62C		1474	US	3 AUG	6 AUG 65
1965 66A	COSMOS 78	1505	USSR	14 AUG	22 AUG 65
1965 66B		1507	USSR	14 AUG	3 SEP 65
1965 66C		1509	USSR	14 AUG	17 AUG 65
1965 67A		1513	US	17 AUG	11 OCT 65
1965 68A	GT-5	1516	US	21 AUG	29 AUG 65*****
1965 68C		1518	US	21 AUG	27 AUG 65
1965 68D		1519	US	21 AUG	26 AUG 65
1965 69A	COSMOS 79	1523	USSR	25 AUG	7 SEP 65
1965 69B		1524	USSR	25 AUG	7 SEP 65
1965 69C		1525	USSR	25 AUG	26 AUG 65
1965 69D		1526	USSR	25 AUG	31 AUG 65
1965 69E		1527	USSR	25 AUG	31 AUG 65
1965 71A		1528	USSR	9 SEP	17 SEP 65
1965 71B		1579	USSR	9 SEP	18 SEP 65
1965 74A		1602	US	22 SEP	11 OCT 65
1965 75A		1603	USSR	23 SEP	1 OCT 65
1965 75B		1604	USSR	23 SEP	4 OCT 65
1965 75C		1605	USSR	23 SEP	29 SEP 65
1965 75D		1606	USSR	23 SEP	29 SEP 65
1965 75E		1607	USSR	23 SEP	29 SEP 65
1965 76A		1609	US	30 SEP	5 OCT 65
1965 76B		1614	US	30 SEP	3 OCT 65

**DECAYED OBJECTS (CONTINUED)**

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
<b>1965 LAUNCHES (CONT'D)</b>					
1965 77A	LUNA 7	1610	USSR	4 OCT	65*****
1965 77B		1611	USSR	4 OCT	65
1965 77C		1612	USSR	4 OCT	65
1965 79A		1615	US	5 OCT	65
1965 80C		1622	USSR	13 OCT	22 OCT 65
1965 83A	COSMOS 92	1626	USSR	16 OCT	24 OCT 65
1965 83B		1627	USSR	16 OCT	29 OCT 65
1965 83C		1628	USSR	16 OCT	25 OCT 65
1965 84C		1631	USSR	19 OCT	25 OCT 65
1965 84D		1632	USSR	19 OCT	26 OCT 65

\* USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY  
\*\* SUCCESSFUL RE-ENTRY AND RECOVERY  
\*\*\* SUCCESSFUL RE-ENTRY, BUT NOT RECOVERY  
\*\*\*\* USSR ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY OF MANNED SPACE VEHICLE  
\*\*\*\*\* HIT MOON  
\*\*\*\*\* US SUCCESSFULLY ORBITED AND RECOVERED A MANNED SPACE VEHICLE